Lax on Brakes
ICC SCORES RAILROADS—P.40

How to Get Across a Lake . . . p. 30

RAILWAY AGE

FEB. 4, 1957 • THE INDUSTRY'S NEWSWEEKLY

with WINE

Cast Steel
HOPPER
FRAMES
. . . ANY ONE OF WHICH WILL CARRY GRAIN WITHOUT LOSS OF LADING!

THE WINE RAILWAY APPLIANCE CO. TOLEDO 9, OHIO

ON A 49-MILE NEW LINE FOR SANTA FE NO. 12s HELP "KEEP US ON SCHEDULE"

CAT* No. 12 Motor Graders were key units in the spreads which Morrison-Knudsen, Inc., and H. B. Zachry Co., San Antonio, used to build 49 miles of Santa Fe track between Dallas and Sanger, Tex.

"The machines keep our down time to a bare minimum," explained J. A. Downey, project manager. "Whenever the going gets rough, Caterpillar equipment stays in there day and night and keeps us on schedule."

One reason for the dependability of the big yellow motor grader is that it is built by *one* manufacturer. Engine, blade capacity and working speed are carefully matched for high off-track production and sure-footed traction.

And now the No. 12 is more dependable than ever. It packs more power—115 HP—and has faster reverse speeds. Its exclusive Caterpillar oil clutch will give you more economy and efficiency than ever. Maintenance is reduced and no external lubrication is required. Yet work life is greatly increased.

You can have the many advantages of tubeless tires on the No. 12 *at no extra cost.* On-the-job tests have proved that these tires eliminate an estimated 80% of down time due to tube and flap repair. They're easier to mount, easier to repair and give longer life than conventional tires.

Here's an off-track unit that can be used to maintain access roads on right-of-way, clean side ditches, restore embankment, and clear snow. Your Caterpillar Dealer—who specializes in fast, efficient service and maintains a complete inventory of parts for you—is ready to demonstrate any of his versatile motor graders on *your* job. Call him today and name a date.

Caterpillar Tractor Co., Peoria, Illinois, U. S. A.

CATERPILLAR*

*Caterpillar and Cat are Registered Trademarks of Caterpillar Tractor Co.

99% OF ALL CAT MOTOR GRADERS ARE STILL IN USE

PROTECTING MORE AND MORE CARS

WITH INEXHAUSTIBLE ENDURANCE

protection

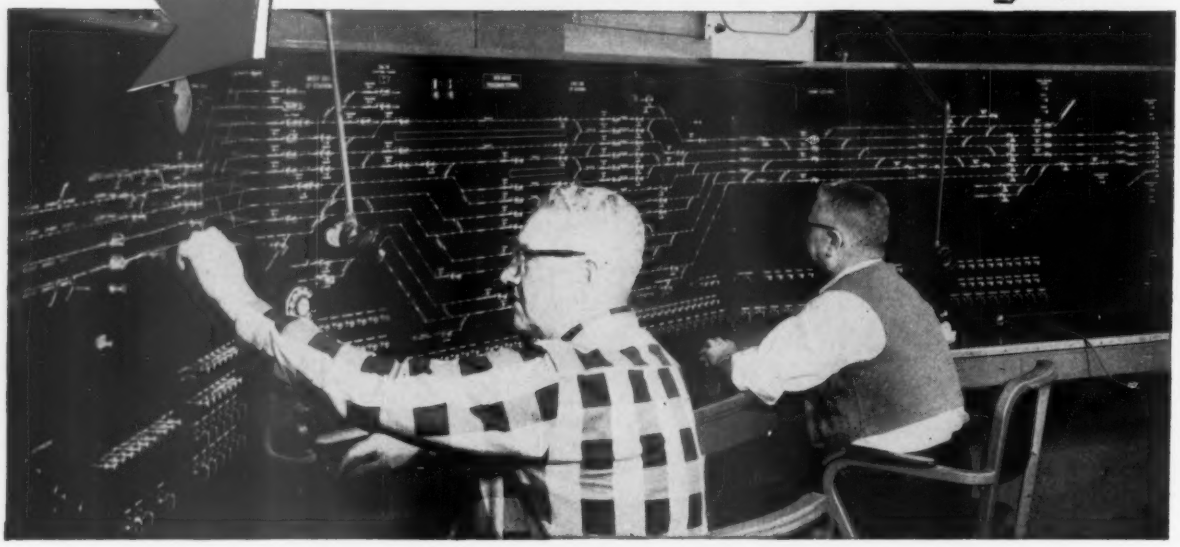
with endurance

MINER FR-16 RUBBER DRAFT GEAR

W. H. MINER, INC. · CHICAGO

UNION Route Interlocking handles

1750 lineups daily at New Haven



UNION Route Interlocking multiplies manpower—makes it possible for an operator to handle extremely large and busy areas.

The New Haven Railroad is consolidating control of nine new electric interlocking layouts, within 10 miles of New Haven, at one new UNION Route Control machine. A conservative count for the first four consolidated interlockings in service showed about 1,750 lineups daily—all controlled from the one push-button machine.

LARGEST PROJECT. This is the largest and busiest consolidation of remote-controlled interlockings ever handled by one push-button machine. Traffic is heavy—amounting to more than "a-move-a-minute"—and will get heavier as the consolidation continues.

EASE OF OPERATION. The UR interlocking system makes it possible to line up the best route through a maze of switches and signals simply by pressing two buttons. The routes are self-restoring and require no further action on the part of the operator.

HIGH-SPEED CODE CONTROL. The UNION Multiplex Code Control System is used to transmit controls and indications between the control machine and the remote interlockings. It is the fastest all-relay coded interlocking control system yet developed.

OPERATING ADVANTAGES. These modern UNION systems are providing simplified operation and reduced operating costs. In-service performance has proved to the railroad that . . . "there is virtually no limitation of the extent of territory which can be controlled from a single station." Write for the complete story.

Quality First...TO LAST

UNION SWITCH & SIGNAL

DIVISION OF WESTINGHOUSE AIR BRAKE COMPANY

SWISSVALE, PENNSYLVANIA

NEW YORK.....CHICAGO.....PITTSBURGH.....ST. LOUIS.....SAN FRANCISCO

RAILWAY AGE The Industry's Newsweekly

Vol. 142, No. 5
February 4, 1957

Departments

Financial	44
Freight Car Loadings	13
New Equipment	13
Organizations	44
Questions and Answers	18
Railroading After Hours	36
Railway Market	13
Railway Officers	45
Supply Trade	45
Technical Tidings	14
The Action Page	52

EDITORIAL AND EXECUTIVE OFFICES
● NEW YORK 7, 30 CHURCH ST.

JAMES G. LYNE, Editor
ROBERT G. LEWIS, Publisher

MANAGING EDITOR .....C. B. Tavenner
NEWS & FINANCIAL EDITOR....Fred C. Miles
TRAFFIC-TRANSPORTATION ....G. C. Hudson
MECHANICAL .....H. C. Wilcox
F. N. Houser, Jr. James F. Berge
ELECTRICAL .....A. G. Oehler
SIGNALING & COMMUNICATIONS
John H. Dunn Robert W. McKnight
REGIONAL NEWS .....Robert B. Keane
PRESENTATION .....Franklin Ryan
LIBRARIAN .....Edith C. Stone
EDITORIAL ASSISTANTS
Ann Ortlinghaus June Meyer
DIRECTOR OF PRODUCTION....M. J. Figa, Jr.
DIRECTOR OF RESEARCH ..Kermit C. Phillips
ART DIRECTOR .....Russell F. Rypsam

● CHICAGO 3, 79 WEST MONROE ST.

EDITOR EMERITUS .....Samuel O. Dunn
EXECUTIVE EDITOR .....Joe W. Kizzia
WESTERN EDITOR .....Wallace W. Abbey
TRAFFIC-TRANSPORTATION. T. H. Desnoyers
MECHANICAL .....Norman E. Gillespie
ENGINEERING .....M. H. Dick
R. E. Dove R. M. Schmidl
REGIONAL NEWS .....Neil T. Kinney
EDITORIAL ASSISTANT .....Wanda Brown

● WASHINGTON 4, NATIONAL PRESS BLDG.

WASHINGTON EDITOR .....Walter J. Taft

Railway Age, established in 1856, is a member of the Audit Bureau of Circulation (A.B.C.), the Associated Business Publications (A.B.P.) and the Railway Progress Institute (R.P.I.). It is indexed by the Industrial Arts Index, the Engineering Index Service and the Public Affairs Information Service. Name registered in U.S. Patent Office and Trade Mark Office in Canada.

Published weekly by the Simmons-Boardman Publishing Corporation at Orange, Conn., and entered as second class matter at Orange, Conn. James G. Lyne, president, Arthur J. McGinnis, executive vice-president and treasurer. F. A. Clark, vice-president and secretary.

PAID CIRCULATION THIS ISSUE 14,372

CONTENTS and
Week at a Glance

Does loading forecast indicate 1957 pace? ..... p. 9

Shipper Board estimates for first three months would give railroads 3.5 to 3.7% more carloadings. Traffic men are cautious on full-year guesses.

Railroad subsidies instead of a rate boost p.10

A Canadian commission would rely on artificial supports rather than have rarely-raised grain rates increased.

Come on along to see the SP move a mountain ... p.30

Bold engineering and modern equipment promise a solid-fill roadway over Great Salt Lake by 1960.

Quick car checks, twice-as-fast inspection p.34

Handie-Talkie radios and a flange-wheel service truck speed trains through the UP's bustling Cheyenne yard.

Better, safer, cheaper ways to chase grime p.37

They're the goals of Oakite's laboratory efforts as reported in the fourth article of our Railway Research series.

ICC seeks broadened brake rule authority p.40

It's a major legislative item in the commission's annual report to Congress. Other recommendations: repeal of transportation taxes; rejection of the railroad-backed "three shall nots."

The Action Page—Cost-Wise manufacturers p.52

One thing that makes manufacturing more profitable than railroading is the availability of useful cost data. Railroads have ample figures but, generally, they lack quality.

SHORT AND SIGNIFICANT

Authentic information scuttles rumors . . .

so for that reason, and others, a Management Newsletter has

HOW BELL SYSTEM COMMUNICATIONS SERVE THE RAILROADS

"We dispatch 2000 men a day by private line teletypewriter"

—FRANK KINDLER, *chief crew dispatcher, the Union Railroad*

Bell System teletypewriter service has greatly speeded crew dispatching—and eliminated last-minute assignment crises—for the Union Railroad of East Pittsburgh, Pa.

"All regular data on every crew exists on punched cards in our dispatching office," says chief crew dispatcher Frank Kindler. When the clerk makes assignments, this is converted to five-channel tape. Then, we send it by teletypewriter to our 21 makeup points."

He adds: "It's a very efficient way to handle 2000 men a day, and have a clear, accurate record for posting. Errors in dispatching men and subsequent complaints have been considerably reduced."

* * * *

Bell System service can help you streamline your own communications. A representative will gladly discuss specific ideas. Just call your Bell Telephone Company business office.

BELL TELEPHONE SYSTEM

PRIVATE LINE TELEPHONE • PRIVATE LINE TELETYPEWRITER

CHANNELS FOR: DATA TRANSMISSION • TELEMETERING • REMOTE CONTROL • TELEPHOTOGRAPH • CLOSED CIRCUIT TV

Current Statistics

Operating revenues, eleven months	
1956	$9,679,887,374
1955	9,248,579,953
Operating expenses, eleven months	
1956	$7,418,974,366
1955	6,946,596,492
Taxes, eleven months	
1956	$1,047,051,241
1955	1,018,671,666
Net railway operating income, eleven months	
1956	$982,530,448
1955	1,050,339,559
Net income, estimated, eleven months	
1956	$777,000,000
1955	828,000,000
Average price 20 railroad stocks	
January 29, 1957	93.51
January 31, 1956	97.10
Carloadings revenue freight	
Three weeks, 1957	1,899,554
Three weeks, 1956	2,020,923
Average daily freight car surplus	
Wk. ended Jan. 26, 1957	12,219
Wk. ended Jan. 28, 1956	5,937
Average daily freight car shortage	
Wk. ended Jan. 26, 1957	2,570
Wk. ended Jan. 28, 1956	4,435
Freight cars on order	
January 1, 1957	117,257
January 1, 1956	147,320
Freight cars delivered	
Twelve months, 1956	67,080
Twelve months, 1955	36,896
Average number railroad employees	
Mid-December 1956	1,017,834
Mid-December 1955	1,070,846

ADVERTISING SALES DEPARTMENT

New York 7, N.Y., 30 Church st., WO-4-3060
C. W. Merriken, J. S. Vreeland, vice-presidents, *F. T. Baker*

Chicago 3, Ill., 79 W. Monroe st., RA-6-0794
J. R. Thompson, vice-president, *J. W. Crossett, J. D. Dolan, W. J. Gatenby*

Cleveland 13, Ohio, Terminal Tower, MA-1-4455, *H. H. Melville,* vice-president, *C. J. Fisher, J. C. Lyddy*

Atlanta 9, Ga., 22 Eighth st., N.E., *J. S. Crane*

Dallas 19, Tex., 3908 Lemmon ave., Lakeside 2322, *Joseph Sanders*

Los Angeles 17, Cal., 1151 W. Sixth st., MA-6-0553, *Fred Klaner, Jr., B. J. Erickson*

Portland 5, Ore., 1220 S.W. Morrison, Ca-7-4993, *L. B. Conaway*

San Francisco 4, Cal., 244 California st., GA-1-7004, *Lewis Vogler*

London E. C., 2, Eng., 48 London Wall
Sibley-Field Publishing Co., Ltd.

Frankfort am Main (16), West Germany, Wittelsbacher Allee 60
International Advertising Agency

SUBSCRIPTION TO RAILROAD EMPLOYEES ONLY IN U.S., U.S. POSSESSIONS, CANADA AND MEXICO, $4 ONE YEAR, $6 TWO YEARS, PAYABLE IN ADVANCE AND POSTAGE PAID. TO RAILROAD EMPLOYEES ELSEWHERE IN THE WESTERN HEMISPHERE, $10 A YEAR; IN OTHER COUNTRIES, $15 A YEAR—TWO-YEAR SUBSCRIPTIONS DOUBLE ONE-YEAR RATE. SINGLE COPIES 50c, EXCEPT SPECIAL ISSUES. CONCERNING SUBSCRIPTIONS WRITE R. C. VAN NESS, CIRCULATION DIRECTOR, 30 CHURCH ST., NEW YORK 7.

Week at a Glance CONTINUED

been introduced on the New York Central. Dealing with all facets of Central activity, it's distributed monthly to management and supervisory personnel.

Record overseas coal shipments . . .

on the Reading are predicted by RDG President Joseph A. Fisher. Great Britain's Welsh mines and those in Poland and Czechoslovakia can't continue their historic role as chief sources of western Europe's fuel supply, he says. American mines are filling the breach to the extent the Reading may haul 2,250,000 tons of export anthracite this year.

More Fishyback . . .

is in the offing, this time along the West Coast. Pacific Trailer Ships will build ships to ply overnight between Los Angeles and San Francisco, each ship to handle up to 300 loaded trailers. First ship is slated to start service inside two years.

'All-purpose' box car . . .

designed by the Canadian National, has door openings adjustable from over 15 ft for lift truck loading down to under 6 ft for grain service. Unit, just placed in revenue service, is the third new type of freight car developed by the CNR in the past year.

The strike-demurrage rate . . .

which is applicable on strike-bound freight cars will become $3.00 per day on February 25. Tariffs increasing the present $2.65 rate to that figure have been filed with the ICC. The increase will keep the rate 25 cents above the per diem rate which railroads charge each other for rental of freight cars, a differential agreed upon sometime ago by the carriers and National Industrial Traffic League. The per diem rate went up from $2.40 to $2.75 on January 1.

Hazards of air travel . . .

in 1956 appear to have been about three times as great as those of travel by rail. The Civil Aeronautics Administration has estimated that last year's fatality rate of regular scheduled domestic air lines was 0.62 passenger deaths per 100 million passenger-miles. Railroad rate for the year's first 10 months was about 0.21, and accidents of the last two months were not expected to change it much.

Here's why FREIGHT CARS NEED SOLID JOURNAL BEARINGS

It's not just a question of low initial cost: you also choose solid-type bearings because they offer the utmost in load capacity, protection for lading, ease and simplicity of maintenance and many other advantages. They all add up to a BIGGER NET RETURN per car dollar invested.

SURE, you get up to 10% more cars for your money, up to 10% more car availability, and hence more freight revenue per car dollar invested with low-cost solid bearings. But there are many other inherent advantages, too. Let's take a quick look.

1. Unrestricted as to Speed and Load

Steel, stone, ore—you can take the biggest loads with solid bearing cars—right up to axle capacity. Solid bearings reduce these maximum loads to about 700 psi—well within bearing and oil film capacity. (Compressive strength of the babbitt at highest normal temperatures is over 7200 psi.)

What about speed? Oil film pressures increase with speed. You get a thicker film of oil that more than compensates for any viscosity change. *With solid bearing cars you're actually better off in the higher range of freight train speeds.*

2. Ease and Simplicity of Maintenance

The AAR journal bearing assembly is a simple standard. Internal parts can be easily inspected or removed—without special tools or equipment, with the minimum of effort and time.

There's no need for expensive shop facilities or skilled labor. Stocking of parts is simple and replacements are available at any repair point of any line. And unlike other bearing types, in the event of road failure you can almost always make necessary repairs and bring a solid bearing car in on the same wheels.

3. Greater Protection for Lading

With solid bearings lading gets the smoothest possible ride on standard freight car trucks. That's because lateral shocks are flexibly controlled—not rigidly opposed. This means less wear and tear on car bodies, trucks, wheel flanges and rails, too!

4. Weight and Resistance Advantages

In motion the solid bearing glides on a film of oil like a skater on ice. Dynamic resistance is as low or lower than that of any other type of bearing—averages less than one pound per ton regardless of the outside temperature or speed of operation.

Solid bearings also save many tons unsprung dead weight on every moving train. Lighter weight, plus lowest possible resistance in pounds per ton, puts the maximum tractive effort of the locomotive to the business of moving goods.

5. Improved Dependability in Freight Service

Solid bearing performance is getting better all the time. In 1954, there was only one set-off for every 15 cars—equivalent to each car operating 15 years per road failure of a bearing. And this average car was almost 20 years old. You can bet that other bearing types would have a tough time trying to beat that record.

Better still, means are now available to reduce journal box servicing requirements and get still better solid bearing performance. Improved bearings and lubricators are now being installed. Periodic servicing—on a calendar basis—and 3-year repacks will not be far behind.

You save money in many ways with solid bearing cars, and you will save even more in the future. With so many inherent advantages, you just can't beat solid-type bearings for railroad rolling stock!

Magnus Metal Corporation, 111 Broadway, New York 6; or 80 E. Jackson Blvd., Chicago 4.

MAGNUS

Solid Bearings

MAGNUS METAL CORPORATION

Subsidiary of **NATIONAL LEAD COMPANY**

RAILWAY AGE
The Industry's Newsweekly

LOADING FORECAST ENCOURAGING, BUT . . .

What's the Full Year Picture?

Industrial traffic men are reluctant to predict any large scale rise in railroad freight business for 1957.

They are generally cautious in any speculations on whether forecasts of first-quarter carloadings will in reality set the pace for rail traffic for the full year.

Making their periodic appraisal of potential rail freight movements, the 13 units of the National Association of Shippers Advisory Boards have forecast that carloadings for the months January through March would be 3.7% higher for "32 principal commodities" than they were during the same period last year (Railway Age, Jan. 7, p. 15).

The National Association's overall forecast was that carloadings would total 7,045,344 in the first quarter, compared with 6,795,863 actually moved in the like 1956 months.

Including what the boards classify as "supplemental" items of freight, the forecast is for 7,790,470 cars as against the actual 7,528,382 carloadings reported for the 1956 period. Using this wider coverage, the percentage increase is smaller—just 3.5%—than in the "principal commodities" comparison.

Comparison of actual carloadings thus far in 1957 with carloadings for corresponding periods in 1956 may be the source of some of the caution evident in statements being made by shippers.

Loadings of revenue freight for the week ended January 12 totaled 680,766 cars; that was down 29,572 cars, or 4.2%, from the equivalent 1956 week. Loadings for the week ended January 19 came to 657,269 cars; that was a decline of 3.5% from the week before and a drop of 42,017 cars, or 6.0%, from the corresponding 1956 week.

Cars loaded in the week ended January 26, the AAR reported on January 31, totaled 665,745; this was 3.8% below the corresponding 1956 total of 639,640 cars.

Noting that the pattern of actual carloadings is beneath the 1956 level (though higher than the 1955 loadings), T. C. Burwell, vice-president of the A. E. Staley Manufacturing Company and president of the NASAB, said he is "unable to predict the rail traffic pace for the entire year."

A similar expression came from George D. Cron, traffic manager, Chevrolet-Oakland Division of General Motors.

Mr. Cron called attention to the Pacific Coast regional board's forecast of a 3.3% rise in carloadings for the quarter and commented that he fears this is "an optimistic figure." He said he doubted the percentage would actually be reached and placed the blame on "tight money" conditions and the fact of this being a "tax period."

Mr. Cron hesitated to state any viewpoint on the national picture, though.

A spokesman with well-established contacts among shippers in the east added to this appraisal the comment that "from what I hear the forecast is a little bit optimistic." He cited the slump in housing starts, and delays resulting from model changeovers in automobile production as contributing factors to his conservative outlook.

Resurgence in freight traffic along with a general business upturn foreseen by some was very possible, however, he declared.

Less pessimistic in his analysis, though, was L. E. Galaspie, director of traffic, Reynolds Metals Company. He said he did not believe the first-quarter forecast represents the probable traffic pattern for the full year but that, to the contrary, he believes "there will be an increase in carloadings of between 5% and 6%."

R. J. Tyler, general traffic manager, Tube Turns Company, also sees chances for a better traffic year in 1957 than last year.

Possible road blocks, he warned, may be thrown up. He said that the

HOW FIRST QUARTER TRAFFIC PICTURE SHAPES UP

Commodity	FIRST QUARTER CARLOADINGS Actual 1956	Forecast 1957	% Up	% Down
Grain	316,002	343,464	8.7	
Flour, Mill Prods.	319,542	330,659	3.5	
Hay, Straw, Alfalfa	7,527	8,006	6.4	
Cotton	63,440	66,785	5.3	
Cotton Seed	16,513	15,579		5.7
Citrus Fruit	23,541	23,473		0.3
Other Fresh Fruit	36,830	34,416		6.6
Potatoes	63,491	64,477	1.6	
Other Fresh Veg.	65,055	66,724	2.6	
Livestock	92,529	88,877		3.9
Poultry, Dairy	13,661	13,858	1.4	
Coal, Coke	2,089,116	2,232,504	6.9	
Ore, Concentrates	282,810	304,962	7.8	
Gravel, Sand, Stone	539,883	540,265	0.1	
Salt	40,812	41,080	0.7	
Forest Products	595,653	585,637		1.7
Oil and Products	348,086	357,348	2.7	
Sugar, Syrups	44,959	47,153	4.9	
Iron, Steel	541,540	546,310	0.9	
Other Metals	48,299	48,024		0.6
Machinery, Boilers	47,312	50,484	6.7	
Cement	122,121	127,380	4.3	
Clay Products	67,479	66,656		1.2
Lime, Plaster	51,957	50,182		3.4
Farm Equipment	22,047	23,188	5.2	
Cars, Trucks	75,604	72,844		3.7
Vehicle Parts	183,983	202,846	10.3	
Fertilizer	120,266	119,496		0.6
Paper, Paper Board, etc.	328,127	331,809	1.1	
Chemicals	109,061	114,098	4.6	
Packaged Food	112,010	119,269	6.5	
Frozen Food	6,607	7,491	13.4	
Supplemental Items	732,519	745,126	1.7	
All Commodities	7,528,382	7,790,470	3.5	

first-quarter forecast "should indicate a rail traffic trend for the entire year, provided the additional increases are such that they will not accelerate present diversion of traffic to other forms of transportation."

Louis A. Schwartz, general manager of the New Orleans Traffic and Transportation Bureau, was joined by R. A. Cooke, manager, traffic department, American Newspaper Publishers Association, in the view that the higher carloadings predicted "will set the pace" for rail traffic for the year.

Mr. Cooke called attention to the upward trends forecast by the NASAB in 1955 and 1956 and the predicted $430 billion gross annual product for the United States this year. They led him to state that the 3.7% forecast will "be the floor for the year" with a rise of more than 5% likely for the remaining nine months.

"More realistic," though, in the view of J. W. Witherspoon, assistant general traffic manager, U.S. Rubber Company, would have been a forecast of a 1.5% increase.

The Pacific Coast board's forecast —3.3% above the first quarter of 1956—is close to the national average. The estimate of the Mid-West board hit the 3.7% overall average.

Actually, there were only two regional boards that predicted declines in carloadings in their territories: the New England board, with a predicted drop of 1.7%, and the Northwest board with a minus forecast of 0.03%.

The forecast of the Pacific Northwest board was for a rise of only 0.03% and that of the Southwest was for a rise of just 1.6%. Biggest percentage increase was forecast by the Ohio Valley board: 8.8%

Commodity-wise, one of the biggest increases forecast was in coal and coke: a 6.9% jump to a total of 2,232,504 carloadings. Another big jump is in grain loadings: 8.7%. At the same time, the crucial iron and steel carloadings were expected to go up by only 0.9%—less than 5,000 cars more than were moved last year via railroad.

Declines were anticipated in cotton seed, citrus and other fresh fruits, live stock, lumber (possibly reflecting the decline in housing starts), non-ferrous metals, brick and clay products, lime and plaster, automobiles and trucks, and fertilizer.

Canadian Report Would OK Rail Subsidies

Royal Commission suggests such action in lieu of hike in grain-hauling rates—Undercharging of trucks described as making "little sense" in terms of most efficient use of national resources

Government subsidies could provide a "short run solution" for Canadian railroads faced with rising costs.

That is the conclusion of a preliminary report by the Royal Commission on Canada's Economic Prospects. The Gordon Report, as the commission's study is called, suggests subsidies to railroads in lieu of an increase in grain-hauling rates.

Walter L. Gordon, Toronto accountant, aided by a forestry expert, a power industrialist and two university presidents, projected Canadian economic trends through the next 25 years for the report, which is now tabled in the House of Commons at Ottawa.

The report recognizes railroads as a "vital necessity" in Canada's economy since they provide the most efficient means of transporting heavy bulk commodities. Grain, the commission found, accounts for about 30% of the railroads' annual tonnage. Grain rates, it commented, have risen only slightly since they were fixed by law in 1898. It would be inadvisable to increase these rates at present, the report said, since they are an integral part of the economy in grain regions.

Later, when conditions become more flexible, increases may be in order, but until then subsidies could strengthen this important source of railroad income, the commission said.

Immediate aid could also come from increased freight rates on high-value merchandise, it added.

In the interests of greater economy, the commission recommended that rail carriers not be pressed to build new unprofitable lines or to maintain existing ones if alternative facilities can be provided.

"If no other transportation is available, it would seem reasonable to permit the railways themselves to introduce bus lines and trucking services where this could be done . . . provided that the interests and requirements of the people residing in the area affected were protected."

Rising highway costs were also studied by the commission. The report recommended "that studies be made to determine the taxes and license fees which the owners of passenger vehicles and the operators of different classes of commercial vehicles should be charged respec-

GN Station Serves Seattle Suburbs

A Great Northern "Empire Builder" halts to take on passengers from the railroad's newly constructed Edmonds, Wash., station for the first time. The $160,000 suburban facility, 17 miles from downtown Seattle, will be a conditional stop for all GN transcontinental and international (Seattle-Vancouver, B.C.), trains for non-local passengers. The railroad estimates that a quarter-million suburban residents now have a transportation service which eliminates the need for first traveling to a city staion.

tively, having regard to the proportion of total costs which should reasonably be allocated to each of them."

"And if trucks in the heavier classes are being undercharged," said the commission, "this gives them a competitive advantage vis-a-vis the railways at a time when public subsidizing of railway revenues may be fast aprpoaching. Quite obviously a situation of this kind [undercharging trucks] makes little sense in terms of the most efficient use of our national resources."

Tardy Eastern Roads Get Fare Increases

The 5% fare increases which came with the new year have now been extended throughout eastern territory.

They have been made effective on the 17 eastern railroads which sought them only after they had been approved by the Interstate Commerce Commission for eight other eastern lines (Railway Age, Jan. 7, p. 14). A commission order of January 25 authorized the 17 latecomers to make their increases effective on two-days notice, but not before February 1.

When tariffs filed by New England roads and roads in Southern territory become effective February 17 and February 20, respectively, the fare increase will be established on a country-wide basis. It became effective January 1 in western territory.

Soo Line Drops 2 Diners, Reduces Sleeper Service

Sleeping and dining car service was curtailed on two Soo Line trains recently "in furtherance of the company's efforts to reduce passenger train losses."

After January 20, no meals were available on Soo Line trains 7 and 8 between the Twin Cities and Sault Ste. Marie, Mich. The railroad said breakfast and evening meals for passengers on the trains could be secured at a cafe adjacent to the Trout Lake, Mich., station.

Starting February 3, sleeping cars between Minneapolis and Sault Ste. Marie operate three days instead of six days each week. The schedule calls for departure from Minneapolis on Sunday, Tuesday and Thursday evenings, arriving at Sault Ste. Marie the following morning and departure from Sault Ste. Marie on Monday, Wednesday and Friday afternoons, with arrival at Minneapolis the following morning.

Panel Named in CPR-BLF&E Dispute

Personnel of the Royal Commission to investigate the dispute between the Canadian Pacific and the Brotherhood of Locomotive Firemen & Enginemen was announced by Prime Minister St. Laurent.

Heading the commission will be Justice R. L. Kellock of the Supreme Court of Canada, who has served on previous conciliation boards. Other members are: Chief Justice Colin McLaurin of the Alberta Supreme Court, and Justice Jean Martineau, of Quebec.

Premier St. Laurent said the commission would inquire into and report on whether firemen and firemen's helpers were required on diesel locomotives engaged in CPR freight and yard operations.

Emmett M. Hall, a Saskatchewan lawyer who served on the Board of Conciliation that failed to satisfy parties to the dispute before set-up of the Royal Commission (Railway Age, Jan. 21, p. 9), declared the charge made by the firemen's union that the Board of Conciliation did not function as such was false. The brotherhood had asserted that biased thinking was responsible for the Conciliation Board's majority report which recommended the CPR be allowed to drop diesel firemen.

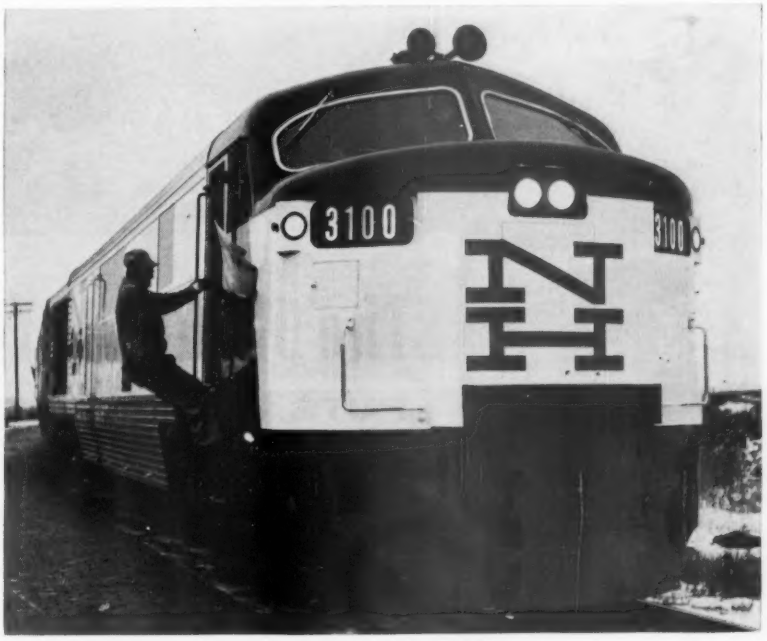
SP Would Spend More if It Had More

Southern Pacific's 1957 capital improvement program calls for spending a lot less than it would like to spend to meet public demand for increased transportation services.

So said D. J. Russell, SP president, when he announced last week the road's $110-million capital improvement program for 1957, which will be about $20 million below the road's 1956 record capital outlay.

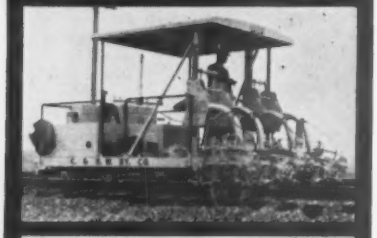
"Even with the economies produced by our previous heavy improvement expenditures," Mr. Russell added, "costs of operation have risen far faster than income. We have to have rate relief."

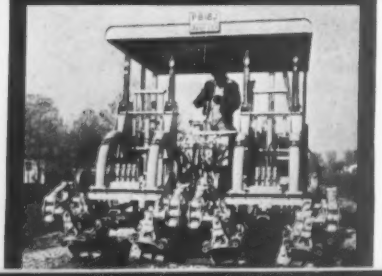
(Continued on page 14)



New Power for the New Haven's 'Talgo'

These two Fairbanks-Morse "Speed Merchant" locomotive units, shown at Sturtevant, Wis., while on test runs, will power the "Talgo" lightweight train being built by ACF Industries for the New Haven. The locomotives can operate either as conventional diesel-electrics or as straight electrics on the third rail in Grand Central Terminal, New York. One unit will be at each end of the train. A similar locomotive, without the third-rail feature, is being built at Beloit, Wis., for the Boston & Maine.





The JACKSON TRACK MAINTAINER

PUTS UP PERFECT TRACK IN A WIDER RANGE OF BALLAST AND CONDITIONS THAN ANY OTHER TAMPING EQUIPMENT!

Unmistakable proof of this fact is found in the almost universal acceptance of this machine by America's leading railroads. To make sure your track maintenance dollars do maximum duty, get the complete facts concerning the Jackson before making any commitments. The evidence of its superiority is so outstanding we are confident you'll specify no other.

Acquirement plans to meet your needs

JACKSON VIBRATORS, INC.
LUDINGTON, MICHIGAN

MARKET OUTLOOK THIS WEEK

Loadings Up 1.3% in Week

Loadings of revenue freight in the week ended January 26 totaled 665,745 cars, the Association of American Railroads announced on January 31. This was an increase of 8,476 cars, or 1.3%, compared with the previous week; a decrease of 26,105 cars, or 3.8%, compared with the correspnding week last year; and an increase of 28,629 cars, or 4.5%, compared with the equivalent 1955 week.

Loadings of revenue freight for the week ended January 19 totaled 657,269 cars; the summary, compiled by the Car Service Division, AAR, follows:

REVENUE FREIGHT CAR LOADINGS
For the week ended Saturday, January 19

District	1957	1956	1955
Eastern	108,605	120,164	111,080
Alleghany	128,623	141,205	117,530
Pocahontas	55,179	60,442	48,882
Southern	124,113	132,103	119,141
Northwestern	74,174	74,917	74,213
Central Western	111,406	116,753	107,411
Southwestern	54,169	53,702	52,094
Total Western Districts	239,749	245,372	233,718
Total All Roads	657,269	699,286	630,351
Commodities:			
Grain and grain products	52,476	46,895	47,924
Livestock	6,769	8,823	8,498
Coal	137,920	147,552	121,869
Coke	13,352	13,990	10,240
Forest Products	39,645	44,877	40,038
Ore	19,350	19,367	13,558
Merchandise l.c.l.	51,564	58,892	59,569
Miscellaneous	336,193	358,890	328,655
January 19	657,269	699,286	630,351
January 12	680,766	710,338	639,833
January 5	561,519	611,299	597,352
	1956	1955	1954
December 29	487,546	570,412	529,386
December 22	698,389	667,479	561,195
Cumulative total, 3 weeks	1,899,554	2,020,923	1,867,536

IN CANADA.—Carloadings for the seven-day period ended January 14 totaled 56,010 cars, compared with 43,579 cars for the previous seven-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
January 14, 1957	56,010	24,296
January 14, 1956	73,310	32,556
Cumulative Totals:		
January 14, 1957	99,483	46,655
January 14, 1956	136,178	61,764

New Equipment

FREIGHT-TRAIN CARS

► *Repair Ratio Improving.*— With total freight cars owned by Class I roads numbering 1,703,152 on November 1, 1956, and 68,275 waiting repairs, the repair ratio was 4.0% on that date, compared with 4.7% on November 1, 1955.

	Nov. 1, 1956	Nov. 1, 1955	Change
Ownership	1,703,152	1,701,642	1,510(i)
Wait Repairs	68,275	80,121	11,846 (d)
Repair Ratio	4.0%	4.7%	0.7% (d)

LOCOMOTIVES

► *1956 Installations Total 1,453.*—Class I railroads put 1,453 new locomotive units in service last year, compared with 1,182 units in 1955, AAR reports; 1956 installations included 1,445 diesel-electrics and eight electrics, while 1955 installations included 1,172 diesel-electrics and 10 electrics; installations in December 1956 totaled 110 units (107 diesel-electrics, three electrics), compared with December 1955 installations of 157 units (all diesel-electrics); locomotive units on order January 1 for Class I railroads aggregated 814 (780 diesel-electrics, 30 gas turbine-electrics, four electrics), compared with 854 units (827 diesel-electrics, 15 gas turbine-electrics, 12 electrics), on order January 1, 1956.

► *Fewer Diesels Held for Repair.*— Only 912 diesel-electric locomotive units were held for repairs on November 1, 1956, compared with 942 the month previous and 915 on November 1, 1955; steam locomotive fleet was down to 3,879, says AAR report summarized below.

	Owned or Leased November 1		Stored Serviceable November 1		Waiting Shops November 1	
	1956	1955	1956	1955	1956	1955
Diesel (A & B Units)	26,006	24,629	32	16	912	915
Steam (Locomotives)	3,879	6,319	502	686	529	1,016
Electric (Units)	604	655	12	14	50	76

New Facilities

► *Delaware & Hudson.*—Will spend $179,000 this year for improvements to maintenance of way department headquarters, including new sanitary facilities, at Schenectady, N. Y., Colonie, Cobleskill and Oneonta; also, extensive changes, to cost $135,000, are to be made in 1957 at Green Island, N. Y., and Colonie yards—work will involve relocation of 4,437 lin ft of track at Colonie, construction of new yard office and installation of yard lighting.

► *Denver & Rio Grande Western.*— Will lay 12 miles of new 106-lb rail between Salt Lake City and Ogden in 1957 at cost of $675,000; other 1957 roadway improvements include bridges, tunnels, additional yard and industrial trackage, signal and communications facilities, to cost total of $719,000; reconstruction of Denver freight car shops at cost of $272,000; and miscellaneous improvements to buildings, fuel and water stations at cost of $159,000.

(Continued from page 11)

Although predictions for general business throughout the country point to a good volume of freight traffic this year, he pointed out, "SP's net income simply will not give the fair return on investment required to attract, at reasonable interest rates, funds necessary to provide all of the facility and equipment improvements we should make to keep ahead of the requirements of our territory."

The SP's conversion to diesel power will approach completion after delivery of 86 more diesel-electric units this spring, when the road's roster of such units will total 2,000, Mr. Russell continued. "We can then reserve our remaining steam locomotives for use during peak load periods. Complete dieselization may be realized before the end of 1958."

At the beginning of 1957 the SP had 10,869 freight cars on order from outside builders and its own shops. One hundred and fifty of the cars, to be built this spring, will be lightweight flat cars designed for piggyback service. Last year the SP put 70,000 truck trailers on rails. Further extension of its piggyback service is being considered.

RR Share of National Income Drops

Revenues of railroads amounted to only 3.2% of national income in 1955, compared with 5.7% in 1939.

Meanwhile, the like ratio for domestic scheduled air lines rose from 0.1% to 0.4%, and that of truckers was up from 1.1% to 1.7%.

This relative loss of the railroad industry to its competitors was pointed up in "Transport Economics," publication of the Bureau of Transport Economics and Statistics of the Interstate Commerce Commission.

The ratios also showed that bus operators and pipe lines have held their own, both having had 1939 and 1955 revenues equivalent to 0.2% of national income.

On the basis of 1939 as 100, the national income index for 1955 was 445.4. The index of railroad revenues was only 253.5. In the same period, the index of air-line revenues rose nearly five times as rapidly as the national-income index—to a 1955 figure of 2,148.7.

Revenues of truckers were the only others which moved up faster than national income. The 1955 index of truck revenues was 698.7. The bus and pipe-line indexes were 331.2 and 318.9, respectively.

Monon Tries Vending Machine 'Diners'

Food-vending machines have replaced grill coach dining service on two of the Monon's Louisville - Chicago trains. These, and similar machines, dispense soft drinks, hot coffee or chocolate, sandwiches, milk, candy and cigarettes. They are installed in converted smoking rooms at the front end of the coaches. The railroad expects the machines to achieve economies.

Technical Tidings

Selected from February Railway Monthlies

Cost of distributing crossties on the Missouri Pacific has been cut 40%, and the hazard of injuries reduced, by the use of special cars from which ties can be easily ejected by sliding them lengthwise through openings in the car sides. Details of the cars, and the manner in which they are used, are in an article in Railway Track & Structures.

•

Crossing gate is down across the B&O industrial track at Jeffersonville, Ind., but is automatically raised on approach of a train. This unusual installation at a grade crossing of a four-lane divided highway is described in Railway Signaling & Communications.

•

General Motors, Fairbanks-Morse, and Napier of England were all faced with essentially the same problems in designing a supercharged, two-cycle diesel. Railway Locomotives & Cars tells how each, in turn, met the challenge. The inherent advantages of this type of engine also are detailed.

•

Second installment of a two-part article on the AAR Weed Control Conferences held in Chicago last November is presented in Railway Track & Structures. Some of the subjects covered include chemical combinations, use of additives, wetting agents, spray equipment and its operation, brush spraying, effect of wet weather and identification of chemicals.

•

Transpositions reduce crosstalk in communications line wires. How they do this, plus a general commentary on transposition plans, are presented in Railway Signaling & Communications.

•

The Richmond, Fredericksburg & Potomac uses highway trucks, radio, and special tools to keep freight and passenger equipment moving. How the railroad services cars on a 75-mile span between its heaviest scheduled points with this highly mobile and communicative car force is related in Railway Locomotives & Cars.

WABCO®

Dated packing cups will save you money

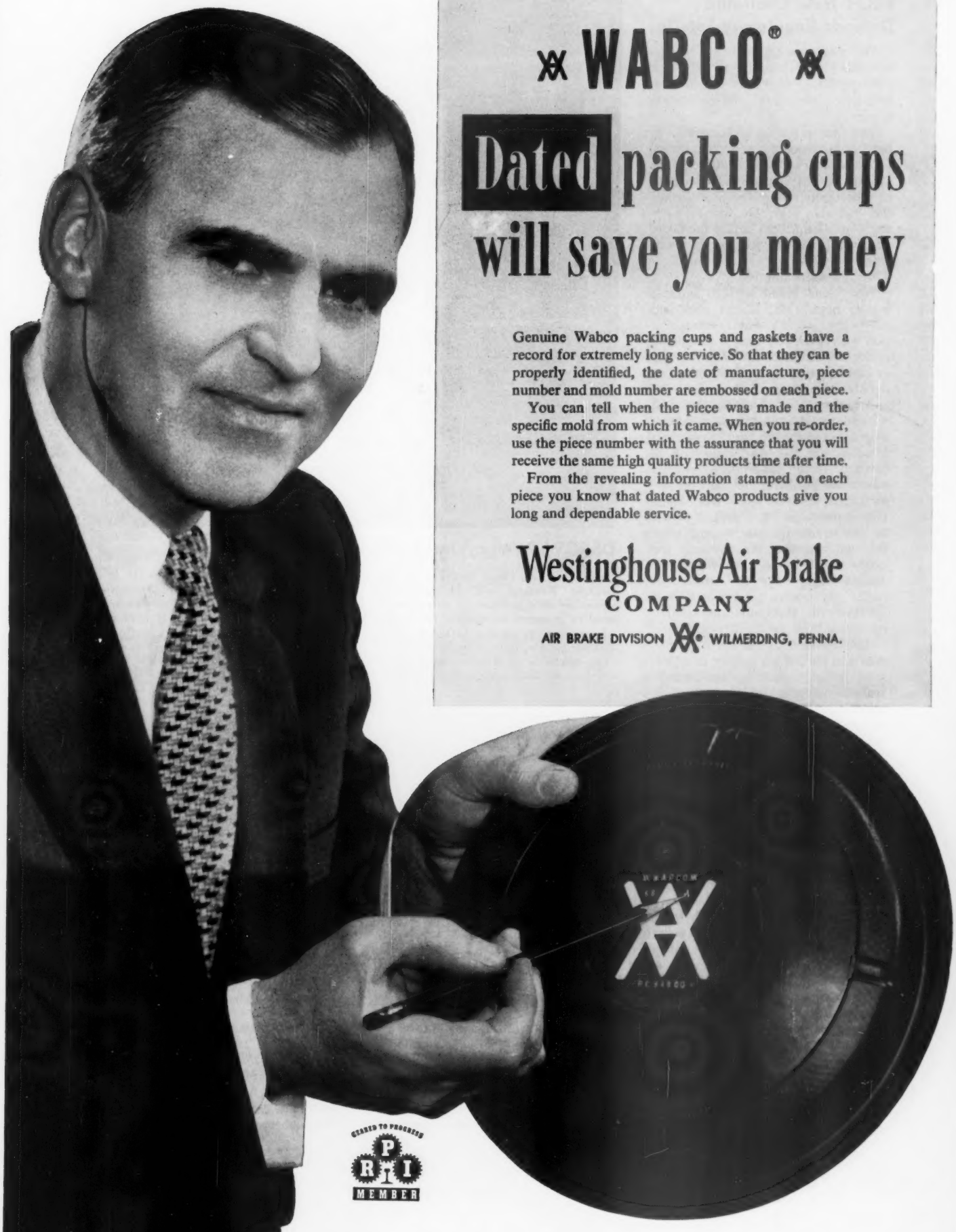
Genuine Wabco packing cups and gaskets have a record for extremely long service. So that they can be properly identified, the date of manufacture, piece number and mold number are embossed on each piece.

You can tell when the piece was made and the specific mold from which it came. When you re-order, use the piece number with the assurance that you will receive the same high quality products time after time.

From the revealing information stamped on each piece you know that dated Wabco products give you long and dependable service.

Westinghouse Air Brake
COMPANY

AIR BRAKE DIVISION WILMERDING, PENNA.



GEARED TO PROGRESS
PRI
MEMBER

ICC's New Chairman Defends Regulatory Set-Up

The Interstate Commerce Commission does not subscribe to the view that regulation has placed undue restrictions on any transportation agency.

This was made clear last week by the commission's new chairman, Commissioner Owen Clarke. "The general healthy status of all modes of transport belies" any such conclusion, the chairman said. He spoke February 1 in Miami, Fla., before the board of governors of the Regular Common Carrier Conference of American Trucking Associations.

No "Dead Hand"—"It is interesting to note," Mr. Clarke also said, "that the world's finest transportation has developed and is prospering under the Interstate Commerce Act as administered by the ICC; that under this act, some carriers—both rail and highway—are earning fair profits and paying substantial dividends, whereas others, with equal managerial freedom, are not; that some have recovered from bankruptcy, whereas others are headed there; that the motor carrier industry grew from an infant industry to a full fledged partner in our transportation system under this act; and that the economy generally could never have reached its present high stage of development under any system . . . which is restrictive of transportation. Surely, there has been no 'dead hand' here!"

This comment from the ICC chairman was part of his answer to a "Fortune" article which he considered a "rather sweeping indictment" of the commission and a "Time" article which "conveys the thought . . . that the act is a stultifying influence on rail progress."

Mr. Clarke is "fearful" that the "growing tendency to make broadside attacks on regulatory law in general is likely to evoke a sympathetic response on the part of those who have not given special thought or consideration to the subject." Meanwhile, he continued, "most thoughtful people realize that the strength and efficiency of our national transportation system is largely dependent upon the perpetuation of sound regulatory policy."

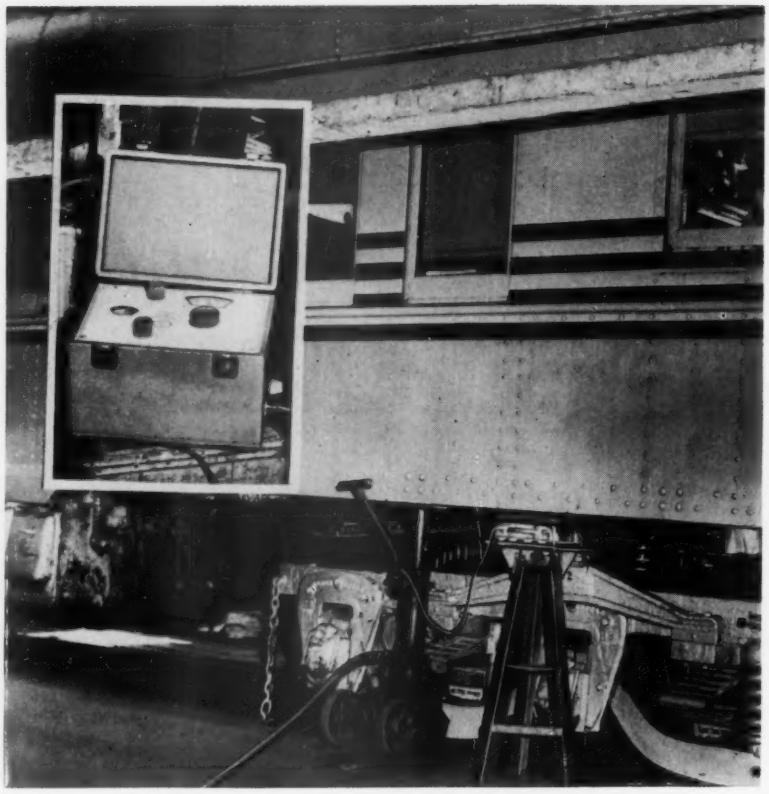
Most of the ICC chairman's address was a discussion of those of the commission's legislative recommendations which he considered of special interest to his audience. As noted elsewhere in this issue, the legislation recommendations, 26 in all, went to Congress last week in the commission's annual report.

Alarming Development — Recent court decisions which have broadened the act's so-called agricultural exemptions comprise "one of the most alarming developments in recent years so far as common carriage is concerned," Mr. Clarke said. He added:

"The small business man is the center of this nation's economy and it is he who is most dependent upon common carrier transportation. If continued erosion, through court decision, of high value, high volume traffic to the exempt commodity carriers is not halted, the inevitable result will be increased competition for the traffic that is left, with ultimate failure of many carriers, and eventual serious injury to our transportation system.

"Essential to the solution of this grave situation—one whose gravity is not now fully appreciated by many active in the transportation industry—is rapid remedial action on the part of Congress.

Much is heard, pro and con, respecting the plight of the small business man and the farmer. Whatever the merits of these arguments may be, there should be little difference of opinion in this matter. The fact is that regulated carriers upon whom this country depends are now facing a more serious threat than is generally realized."



D&RGW 'Weighs' the Comfort of Its Passengers

Passengers on the Denver & Rio Grande Western will be getting a smoother ride because of a new device used to measure accurately the weight of a car on its trucks. Lifted by jacks at four points, the car body is lowered onto portable electronic weighing devices—total body weight is recorded by the metering instrument shown in inset. This eliminates guesswork in estimating truck weights when ordinary track scales are used, and it permits accurate adjustment of truck springs. Ball Brothers' Control Cell division at Boulder, Colo., developed the new portable platform scales.

Serviceable Fleet Rose 2,742 Cars in December

Class I railroads added 2,742 cars to their serviceable fleet during December 1956. As of January 1, there were 16,863 more cars in the serviceable fleet than at the beginning of 1956.

This was reported by Chairman A. H. Gass of the Car Service Division of the Association of American Railroads in his latest review of "The National Transportation Situation."

He also reported that new-car installations in December 1956 were at the highest level in more than three years—since October 1953. The December installations totaled 6,711 cars, including 6,562 installed by Class I roads and 149 by car-line affiliates of those roads.

Detention reports for December indicated that 20.76% of the cars placed in that month were detained beyond the free time. That compared with 21.24% for November, and 19.7% for December 1955.

Performance data showed that freight cars produced an average of 1,095 net ton-miles per serviceable car per day in October, the latest month for which figures were available. That was above September's 1,073, but slightly below October 1955's 1,099 .

Supervision of covered hoppers was transferred February 1 from CSD's Open Top Section to the Closed Car Section, Mr. Gass announced in another statement.

Noting that covered hoppers are used for commodities previously moving in box cars, Mr. Gass added: "The change in section assignment was made for the purpose of greater utilization of the car fleet where desirable and practical."

Mine Product Rates Miss Costs by Third

If 1954 railroad rates had been on a fully-distributed-cost basis, rates on products of mines would have been 33.8% higher than they were. And rates on the Manufactures and Miscellaneous group would have been down 24.4%.

This was shown by a study (Statement No. 8-56) issued by the Interstate Commerce Commission's Bureau of Accounts, Cost Finding and Valuation. Like similar previous studies, it indicates what the revenues from various commodities contributed to the railroads' "overhead burden."

The general showing was that the Manufactures and Miscellaneous group carried 70.9% of the 1954 overhead burden while accounting for only 48.3% of freight revenue. Products of Mines accounted for 23.4% of revenue but carried only 8.6% of the overhead burden.

As to other groups, Products of Agriculture contributed 11.1% to overhead and accounted for 14.6% of the revenue. Products of Forests, 5.7% and 7.8%, respectively; Animals and Products, 1.5% and 4%; forwarder traffic, 2.2% and 1.9%.

Other than Manufacturers and Miscellaneous, forwarder traffic would have been the only freight to pay less in 1954, if rates had been based on fully distributed costs. The forwarders would have paid 22.4% less. In addition to the 33.8% increase on products of Mines, there would have been advances of 12.3%, 2.7% and 2.9%, respectively, on Products of Forests, Products of Agriculture and Animals and Products.

Other data in the report showed that each commodity group accounted for 1954 revenues exceeding its out-of-pocket costs. Ratios of revenues to out-of-pocket costs were: Manufacturers and Miscellaneous, 173; Products of Agriculture, 128; Products of Forests, 127; Animals and Products and Products of Mines, both 112.

Canadian National Tests High-Speed Pulp Car

This new steel-frame wire-sided pulpwood car is undergoing tests on the Canadian National (Railway Age, Feb. 13, 1956, p. 8). It was designed to overcome the problem of load shifting, which tends to occur when end-rack flat cars, loaded with pulpwood, are used in high-speed service. The car doors swing open, as shown in the photograph, or slide open. It has a capacity of 25 cords of hardwood, or 29 cords of softwood.

Emergency Board Gets Express Wage Dispute

Emergency board hearings in a wage case involving employees of the Railway Express Agency got under way in Philadelphia last week.

The REA employees are those represented by the International Brotherhood of Teamsters which is demanding a wage increase of 30 cents per hour and some changes in working rules. The emergency board was created by an executive order issued by President Eisenhower on January 25.

Members of the board are Paul H. Sanders, professor of labor relations at Vanderbilt University Law School, Nashville, Tenn., Harold M. Gilden and Thomas C. Begley, attorneys and professional arbitrators of Chicago and Cleveland, respectively.

Sad But True, UP Notes Its Vanishing "Brass-Pounders"

The man who once sat at a telegraph key and wrote his profession into history with an incessant "dit-da-dit" has all but disappeared from the Union Pacific communication scene.

Even though the rattle of telegraph keys is still heard at many points on the UP, batteries of teleprinters, telephones and two-way radios have taken over the bulk of communications work.

The telegraph department hereafter will be called the communications department, the railroad announced nostalgically.

UP will continue to employ a small core of telegraphers, however, to fill spots where the volume of communication traffic does not warrant installation of expensive replacement equip-

(Continued on page 43)

Questions and Answers

Of current interest

to the Transportation Department

Can we get better control — at local levels — over transportation expenses?

?

Yes. Here's one road's approach to the problem.

Many businessmen seem convinced that the decentralization of control functions has many advantages. One great advantage of decentralization is that the person exercising the control legitimately can be held responsible for his operations' success or failure in giving service, staying within the budget, etc.

I've been reading recently the proceedings of the October 1956 meeting of the Railway Systems and Procedures Association. One fascinating presentation at that meeting was made by a group of officers from the Canadian National, and was entitled "Canadian National's Approach to Control of Transportation Expense." The basis of the CNR approach is this: Money is spent on the divisional level, and therefore it is essential that divisional officers know where the money is going. CNR then set out to learn what statistics would be needed so that division officers could better control their operations.

Interestingly, the CNR has not used one system which has been traditional with railroads for many years, i.e., measuring today's performance against that of some prior period. Instead CNR set performance targets for individual freight trains, freight stations, yards.

Having decided that this was the thing to do, it was necessary next to determine precisely what data should be furnished the officers and in what form.

According to D. M. Trotter, a division superintendent who was assigned the task of setting up these controls, "In order to keep all information in as simple a form as possible, it was decided to measure direct (controllable) wage expense only. It seemed that if wage expense were kept in control, most other expenses would be controlled automatically."

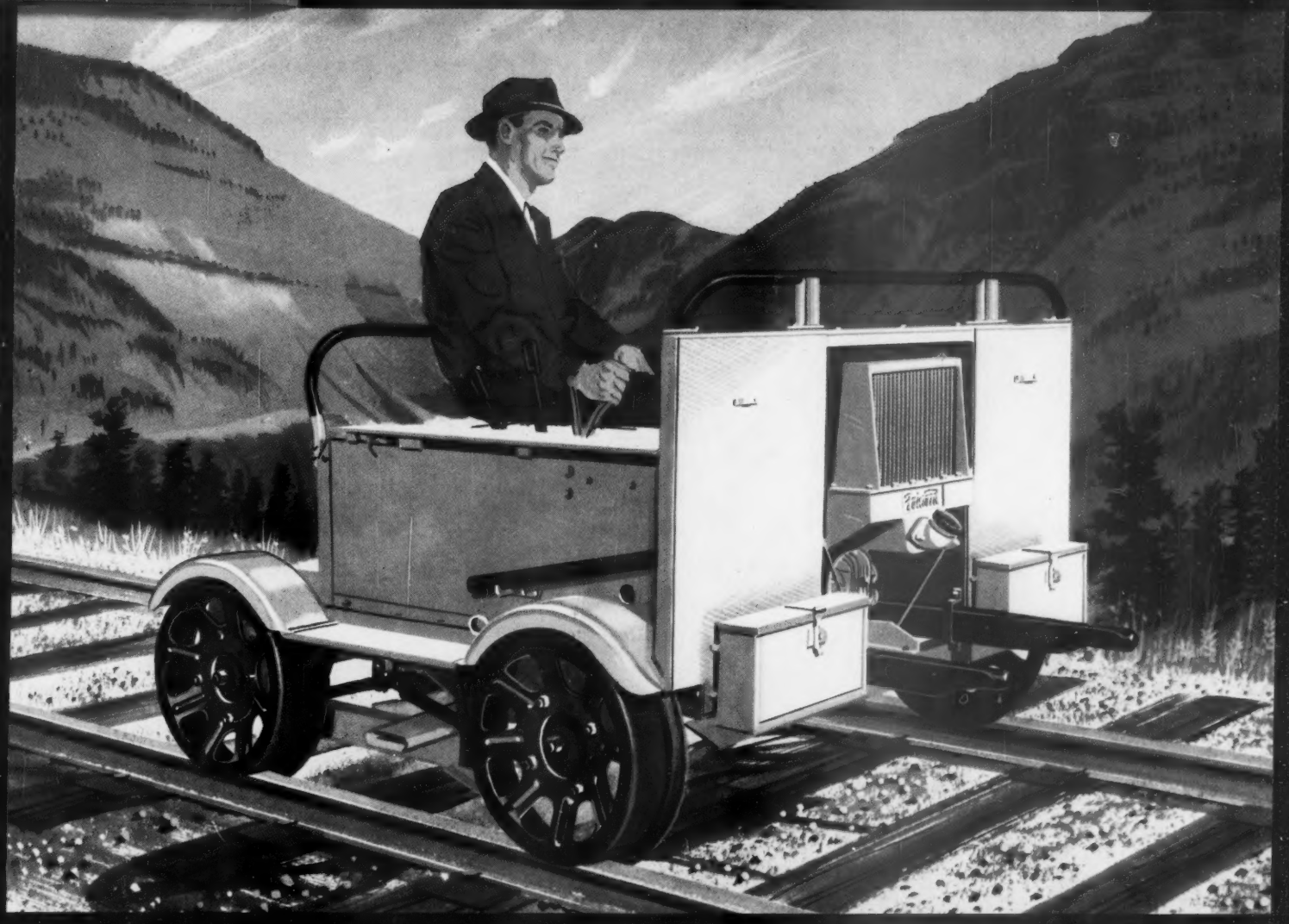
Accordingly, "it was arranged that superintendents would be supplied with wage costs of freight trains by individual runs. These wage expenses would be measured against the equated gross ton-miles accrued. Terminal detention . . . was to be shown separately, as was overtime and some other items of additional cost. . . . For yard service, . . . we arranged to supply daily wage costs in both total and per car dispatched, once a week. We also supply . . . overtime wages, wages of men doubling, cars received, forwarded loaded and weighed, also a series of data covering terminal delays to road freight trains."

Once a week superintendents are furnished with a statement of daily wage expense for stations with four or more employees. Freight office wages are measured against the number of shipments handled, while platform expense is measured against the number of tons received, forwarded, or transhipped.

I'm sure you realize that there's a lot more to the plan than my brief summary here. The description of the system given by Mr. Trotter and his associates is both interesting and thought-provoking. If you're interested in finding out more about the system get a copy of the proceedings, which are available from RSPA' executive director, R. E. Hoyne, 357 Union Station, Washington 2, D. C. They sell for five dollars a copy.— *G. C. R.*

Send in your answers to the "quiz" which ran in the January 21 issue. Quite a few have been received already. At least six roads have reprinted the quiz for distribution to those with car-handling duties.

CONDUCTED by G. C. RANDALL, district manager, Car Service Division (ret.), Association of American Railroads, this column runs in alternate weekly issues of this paper, and is devoted to authoritative answers to questions on transportation department matters. Questions on subjects concerning other departments will not be considered, unless they have a direct bearing on transportation functions. Readers are invited to submit questions, and, when so inclined, letters agreeing or disagreeing with our answers. Communications should be addressed to Question and Answer Editor, Railway Age, 30 Church Street, New York 7.



When you think of

INSPECTION CARS

. . . think first of **Fairmont**

Shown above: **M19 SERIES AA** One- to Four-Man Inspection Car offers a new two-cylinder Fairmont engine, demountable wheels and four-wheel braking. Soundly engineered and soundly built, this vehicle provides a load capacity of 750 lbs.

M19 SERIES F One- to Four-Man Inspection Car employs a 5- to 8-horsepower roller bearing engine, a new engine stabilizer and four-wheel braking. Like all Fairmont products, it offers great dependability and economy.

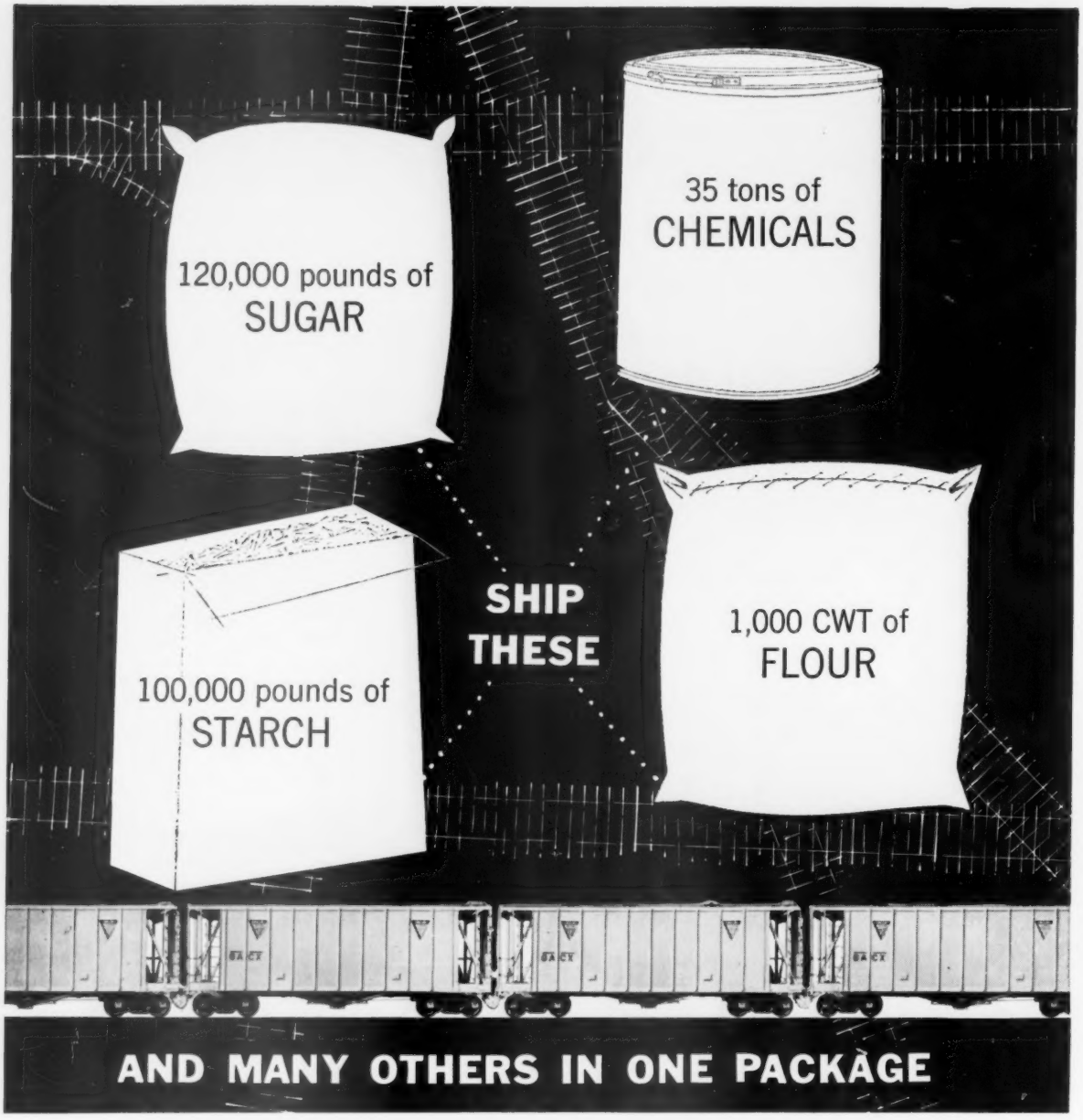
M9 SERIES G One- to Two-Man Inspection Car features an efficient roller bearing engine, enclosed housing and adjustable lift handles. Only 540 lbs. in weight, it offers unusually high standards of performance.

MR19 SERIES A One- to Four-Man Inspection Car provides two-way drive, four-wheel braking, enclosed housing and a 5- to 8-horsepower engine. Performance characteristics include unusual safety and maneuverability.

Among the equipment on this page there is almost certainly the answer to your inspection requirements. Built to the high-quality standards and embodying the fine design and sound engineering that have made Fairmont famous the world over, this equipment is without equal in its field. All feature easy engine access . . . long-wearing, quickly adjustable brakes . . . spring mounting . . . and safe, dependable power. Whether it's daily inspection trips . . . track patrol . . . signal and telegraph maintenance . . . or supervisor's service, there is a Fairmont unit that will do the job better and more efficiently.

FAIRMONT RAILWAY MOTORS, INC., FAIRMONT, MINNESOTA

MANUFACTURERS OF INSPECTION, SECTION AND GANG CARS, HY-RAIL CARS, MOTOR CAR ENGINES, PUSH CARS AND TRAILERS, WHEELS, AXLES AND BEARINGS, BALLAST MAINTENANCE CARS, DERRICK CARS, OIL SPRAY CARS GROUTING OUTFITS, TIE RENEWAL EQUIPMENT, RAIL RENEWAL EQUIPMENT, WEED CONTROL EQUIPMENT.

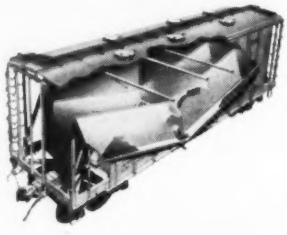


Save! Ship in Bulk via Airslide® Cars

The Airslide Car is designed and built for materials never before successfully shipped in conventional covered hopper cars. The Airslide Car has been proved by more than 3 years of continuous use in all climatic conditions all over the country.

Over 2000 Airslide Cars are now in use or on order. They require no re-spotting, provide far more clearance for unloading and can be unloaded into any conveying system as fast as the system permits. If such requirements are important to you, write today for full information about General American's new Airslide Car.

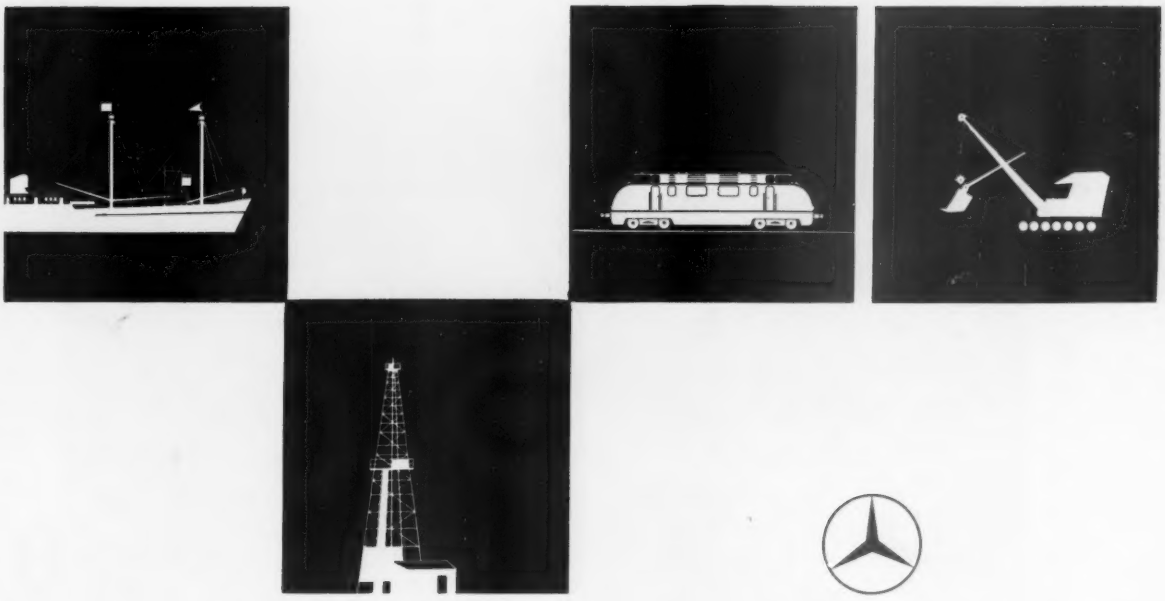
CLEAN INTERIOR DESIGN—*All-welded construction—no interior carlines or other protuberances. Provides maximum sanitation and minimum product retention. All loading hatches and discharge outlets provide a hermetic seal.*



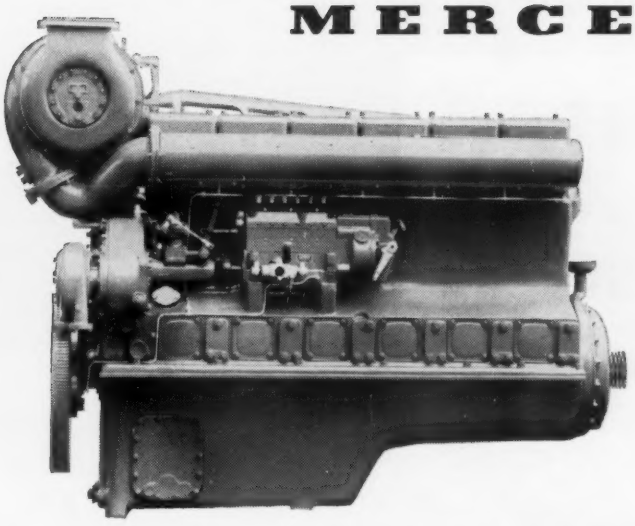
AIRSLIDE GENERAL AMERICAN TRADE MARK

GENERAL AMERICAN TRANSPORTATION CORPORATION

135 South La Salle Street • Chicago 90, Illinois • Service Offices In Principal Cities • Service Plants Throughout The Country



MERCEDES-BENZ



Diesel Engines

to power
stationary and mobile
power plants,
ships and
rail-bound vehicles,
15-3000 HP

Daimler-Benz AG Stuttgart-Untertürkheim Germany

Please forward detailed leaflets

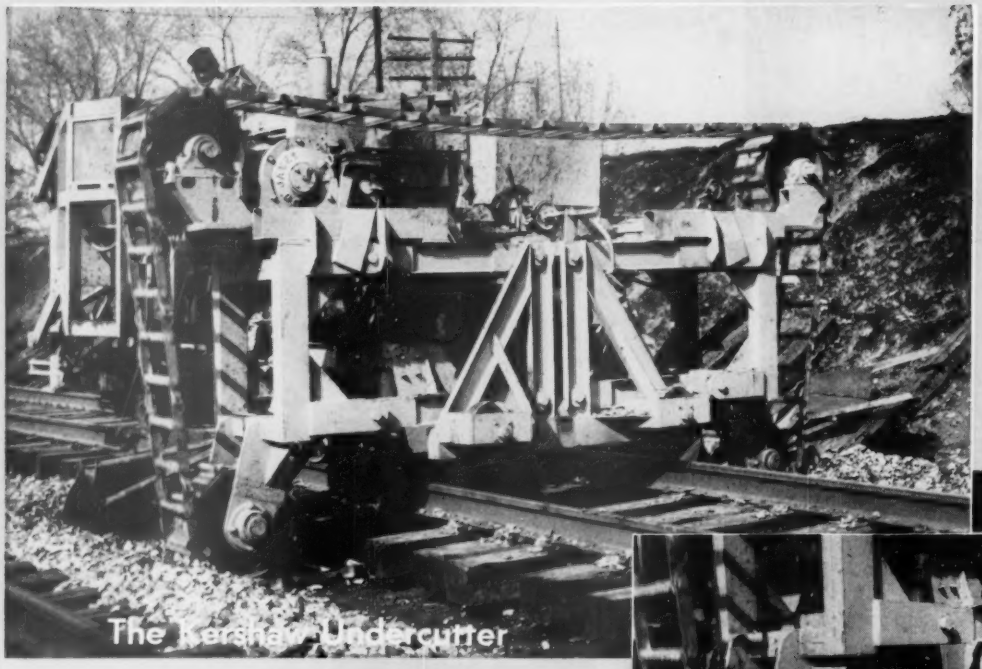
Please advise address of your agents in

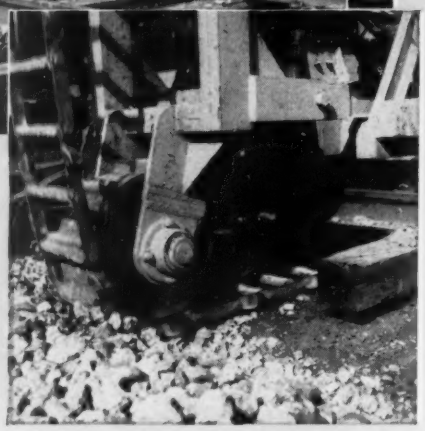
Name

Address

Daimler-Benz AG Stuttgart-Untertürkheim Germany Engine Sales Department

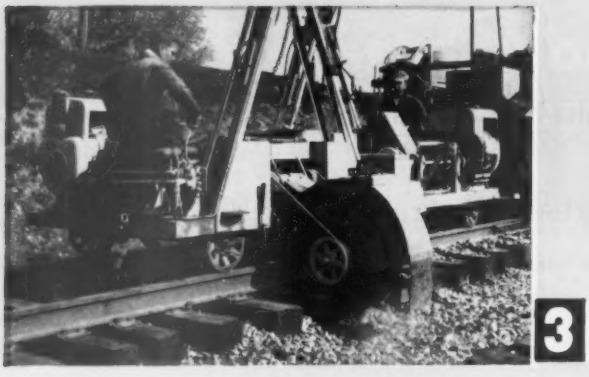
1340





Recondition
Without Raising Track...
Recondition
Without New Ballast..!

The Kershaw Two-Wheel Kribber



The Kershaw Jack-All

The Complete Line of Kershaw Track Maintenance Equipment

Ballast Regulator, Scarifier and Plow and Attachments • Single Wheel-Type Kribber • Mocar Crane • Cribber-Adzer • Jack-All • Track Crane • Tie Bed Cleaner • Track Broom • Track Skeletonizer and Undercutter • Ballast Cleaner and Distributor • Spot Tamper • Two-Wheel Kribber • Chemical Spreader Car • Deadhead Detector • Rail Re-Layer.

2 The Kershaw Ballast Cleaner

Kershaw Jack-All first raises track, catching off the tie-ends. The Kershaw Two-Wheel Kribber, each with two digging wheels, then scarifies and removes the ballast from the tie cribs four inches below the bottom of the tie between the rails, and on the outside of the rails.

The Kershaw Undercutter and Skeletonizer follows by undercutting the track three to four inches. A continuous chain extends under the track, removes the ballast and piles it in rows on the shoulder.

Next comes the Kershaw Ballast Cleaner which picks up the old ballast, cleans it, disposes of dirt on shoulder, and puts the cleaned ballast back in the track.

Track is now ready for raising to original elevation and for final tamping on cleaned ballast. Track is reconditioned without new ballast and with same top of rail elevation.

For **Spot Reconditioning**
at BRIDGE APPROACHES
STATION GROUNDS
TUNNELS
ROAD CROSSINGS

***Now*... more than ever . . .**
Recognize This Symbol of Leadership...

KERSHAW
MANUFACTURING CO. INC
MONTGOMERY K ALABAMA

Studs for NELWELD process machined from Youngstown cold finished bars

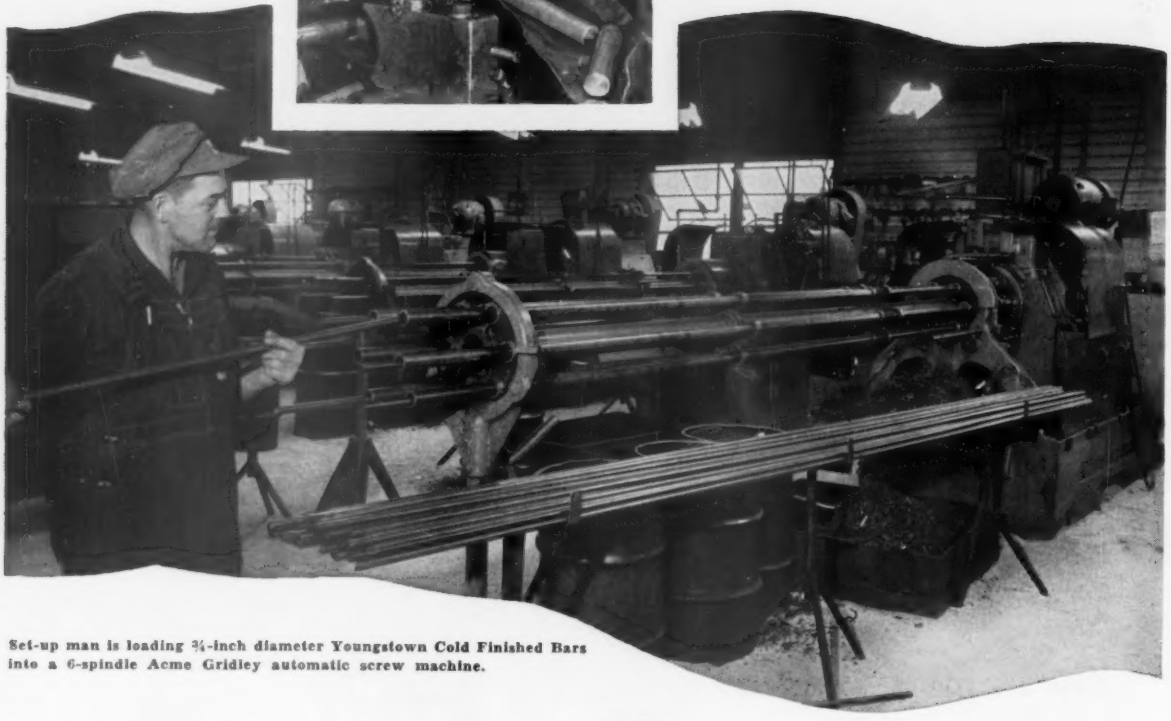
Progressive fabricators rely on the Nelweld method for fast, dependable end-welding of studs to steel surfaces. This novel electric arc process—utilizing flux-filled steel studs—substantially reduces direct fastening costs when used to replace conventional time-consuming methods such as drilling, tapping, hard welding, through-bolting or the securing of straps and rivets.

To maintain their world-wide reputation for product quality and uniformity, Nelson Stud Welding, a division of Gregory Industries, Inc., uses Youngstown Cold Finished Bars as the basic material for stud production.

Youngstown Cold Finished Bars provide high machinability and greater uniformity of composition, structure and surface finish to help you increase production of more uniform parts. Always specify Youngstown—it's your best assurance of quality.

Why not call or write your nearest Youngstown District Sales Office today for additional information or metallurgical assistance?

Close-up of studs being bored to accomodate their charge of flux (top collet) and then cut-off (center collet). Two finished Nelweld studs, shown in the pan in foreground, were machined simultaneously in the 6-position machine. First operation—feed out and face; second—bore; and third—cut-off.



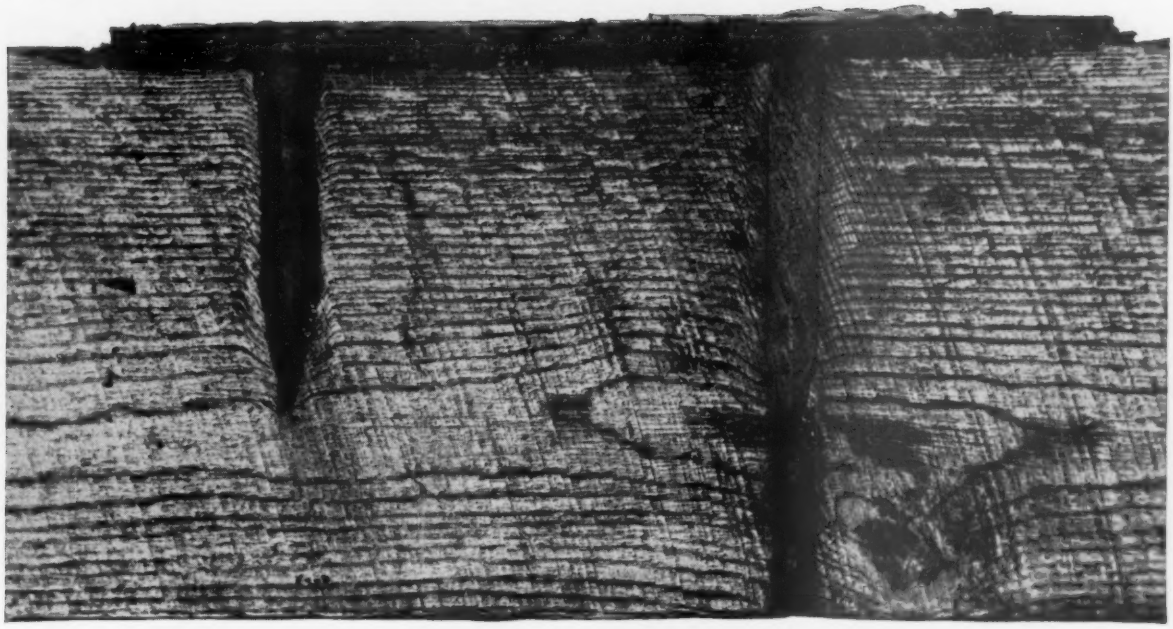
Set-up man is loading ¾-inch diameter Youngstown Cold Finished Bars into a 6-spindle Acme Gridley automatic screw machine.

THE YOUNGSTOWN SHEET AND TUBE COMPANY
Manufacturers of Carbon, Alloy and Yoloy Steel
General Offices - Youngstown 1, Ohio
District Sales Offices in Principal Cities

QUALITY YOUNGSTOWN SERVICE

Cold finished bars

Plan for the future –



Unretouched photograph of cross section of tie showing underplate and spike-hole area protected for 10 years by Bird Self-Sealing Tie Pad.

SLASH YOUR TIE COSTS WITH BIRD SELF-SEALING TIE PADS

Here is PROOF of the effectiveness and durability of the *seal* of the Bird Self-Sealing Tie Pad to the tie.

This Bird Self-Sealing Tie Pad was installed on a 1944 cross tie as part of a new rail laying program in 1946. The tie was removed from track in July, 1956 for exhibition purposes.

Note the protection to the underplate and spike hole wood which has been provided over a 10-year period by the Bird Self-Sealing Tie Pad. There is no trace of the well-known effects of moisture or abrasion in either of these vulnerable underplate areas. Destructive moisture and abrasive materials could not penetrate the seal.

The Bird Self-Sealing Tie Pad is specially designed to provide an effective and durable seal with the tie. The pad also protects this seal and acts as a buffer between the tie plate and the tie to eliminate mechanical wear. That's why you can slash your tie costs at least 50% through the use of Bird Self-Sealing Tie Pads. For further information, write Bird Tie Pads, Dept. HRA-2, East Walpole, Massachusetts.

BIRD SELF-SEALING TIE PADS ARE RECOMMENDED FOR:

Bridge Decks • Curves • Switch Timbers
Highway Grade Crossings and Other
Paved Areas • Crossing Frogs
Insulated Joints • With Smaller Tie Plates
Pile Cutoffs • Through Station Platforms
Out-of-Face Installations in Rail-Laying
Programs • All other locations where
tie life is short or replacement costs are high.

Buy the Best... BIRD & SON, inc. Established 1795 *Buy BIRD*

ON-THE-JOB TESTS PROVE:

"75" PAYSCRAPER®

CARRIES

12% more...

DELIVERS IT

15% faster

. . . . .

TD-24 push

An International TD-24 tractor and "75" Payscraper recently out-pushed, out-loaded, and out-sped all equal-sized competitive units in accurate on-the-job tests. This data was obtained on the Illinois toll road job near Rockford.

All tests were conducted under similar conditions on the same cut, in the same material, and under the supervision of the contractor's grade foreman. Loading time was limited to exactly one minute. Scraper loads were weighed on special new accurate scales. Haul length was held to 2,000 feet for all scrapers.

Final figures amazed all observers! Results showed first, that *the "75" Payscraper carried 12% more dirt per load...delivered it 15% faster than the other two scrapers tested;* second, that *the TD-24 torque converter pusher heaped an average of 1.2 cu yd extra into all scrapers tested.* (See charts, at right.) A competing manufacturer substantiated these same figures!

Here's conclusive proof that no matter what scraper the TD-24 pushes, you load more in any given time... and that the "75" Payscraper carries more, no matter what pushes it! And that the TD-24 and "75" Payscraper, teamed together, out-produce other equipment combinations with faster loading, bigger loads, and all-around faster cycles.

Prove that International Payscraper units and TD-24 tractors can give your railroad the same high bonus performance in reducing grades, removing landslides, day-lighting curves, building spur lines and in all kinds of off-track earthmoving jobs. See your nearby International Construction Equipment distributor for a demonstration.

Load-Speeding Action. High horsepower-to-weight ratio and speeds up to 24 mph—plus operating ease of air-assisted clutch; big, safe, 4-wheel air brakes; exclusive Hydro-Steer—all help the Payscraper gain time, increase earth-moving capacity!

Clipboard in Hand, equipment engineer signals "75" to begin controlled one-minute push-loading from TD-24 torque converter tractor. Although TD-24 push-packed an average 1.2 cu yd more in all scrapers, it loaded 2.1 cu yd more in "75" Payscraper, than competing pusher!

loads 1.2 extra yds. into all scrapers!

PAYLOAD TESTS (average)

Pusher	International "75" Payscraper	Scraper "A"	Scraper "B"
International TD-24 Torque Converter tractor	20.6 cu. yd.	18.2 cu. yd. "75" bonus 2.4 cu. yd.	17.5 cu. yd. "75" bonus 3.1 cu. yd.
Pusher "A"	18.5 cu. yd.	17.0 cu. yd. "75" bonus 1.5 cu. yd.	17.1 cu. yd. "75" bonus 1.4 cu. yd.

CYCLE TIME TESTS (average)

International "75" Payscraper	4.8 min.
Scraper "A"	5.7 min.
Scraper "B"	5.6 min.

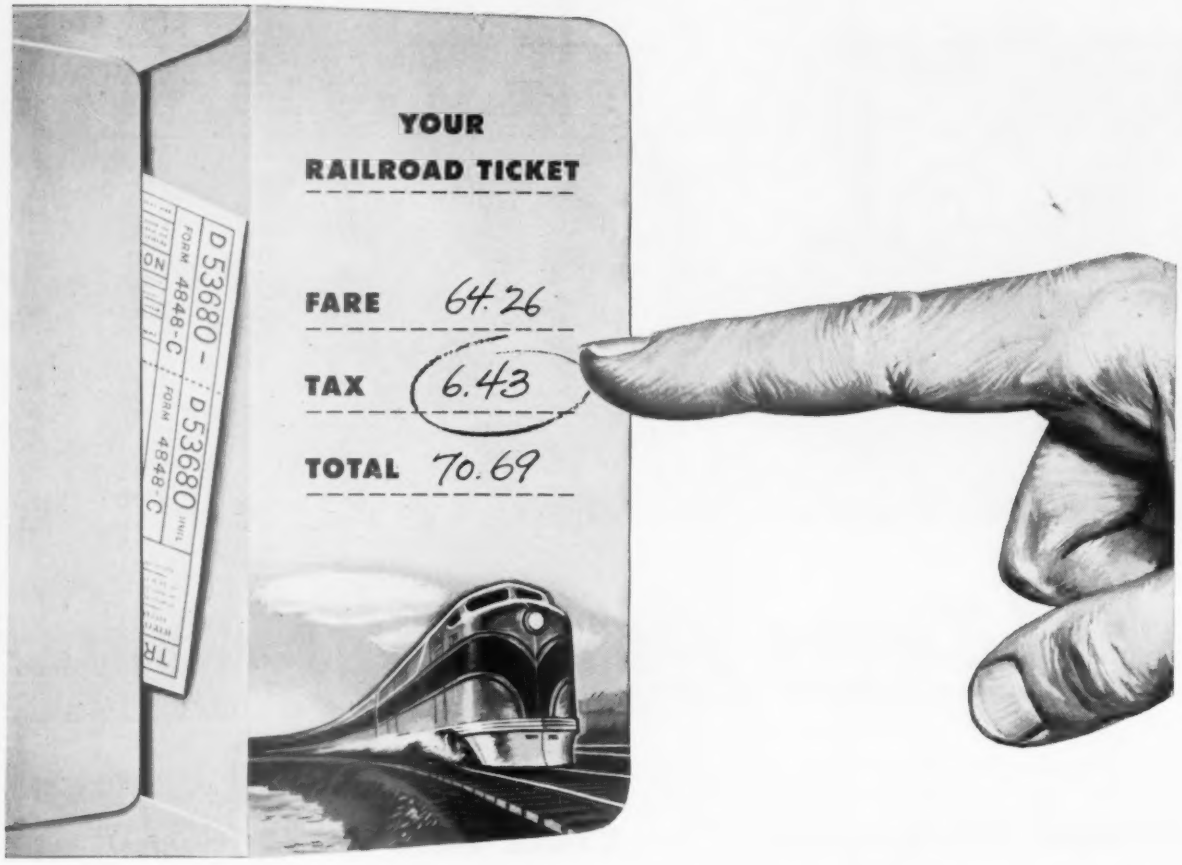
"75" Payscraper Proves 15% faster ... delivers up to 19 extra loads per 10-hour day

INTERNATIONAL HARVESTER

INTERNATIONAL® Construction Equipment

International Harvester Company, 180 N. Michigan Avenue, Chicago 1, Illinois

A COMPLETE POWER PACKAGE INCLUDING: Crawler, Wheel, and Side-Boom Tractors . . . Self-Propelled Scrapers and Bottom-Dumps . . . Crawler and Rubber-Tired Loaders . . . Off-Highway Trucks . . . Diesel and Carbureted Engines . . . Motor Trucks



You still pay these "temporary" wartime taxes

During World War II, Congress levied special taxes on the passenger fares and the freight charges paid to railroads and other forms of public for-hire transportation. One reason for these special taxes was to discourage the use of these transportation facilities in wartime.

The war ended more than ten years ago but these taxes go on – and on. They still add an extra 10 per cent to the passenger fares you pay, and they add 3 per cent to the freight charges on everything that moves by public carriers such as railroads.

The reason for these "temporary" wartime taxes vanished long ago. But they are still discouraging the use of our public transportation systems. And by so doing, these taxes are weakening our public carriers – essential to peacetime commerce and vital to national defense.

These discriminatory and burdensome taxes should be repealed – *now!*

ASSOCIATION OF
AMERICAN RAILROADS
WASHINGTON, D. C.

50000 KE-Brakes

Can you imagine a train 375 miles long?

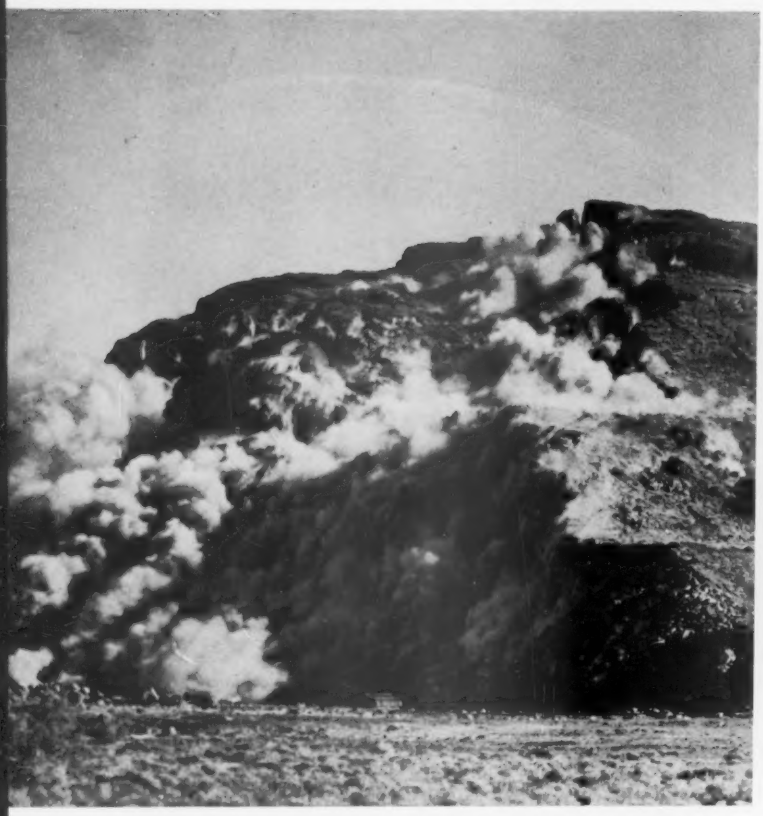
This would be the length of the train, if all rolling stock, equipped with the new KE Air Brake was coupled together.

50000 KE Brakes have been fitted to passenger and goods wagons in Germany and other Countries just recently. The outstanding success, on its introduction on the most modern air brakes in Europe, has proved the confidence felt in the high quality production of Knorr-Bremse.

The KE Air Brake with its technical and economical advantages will be of decisive importance for many years to come.

KNORR-BREMSE GMBH MUNICH

WESTERN GERMANY · MOOSACHER STR. 80 · TELEPHONE 36741



◄ **1** **A MIGHTY EXPLOSION, last November, tore loose some two million tons of rock for the SP's new fill across Great Salt Lake. Blast was labeled as one of the most powerful non-atomic explosions ever set off in the U.S. It was caused by 600,000 lb of explosive packed into the 300-ft high cliff.**

2 **ELECTRIC SHOVELS scoop up the loosened rock and load it into big dump trucks. Six of these shovels are used to load the sand, gravel and rock which will be used in constructing the 13-mile long fill. Most of the material is obtained on Promontory peninsula.**

How SP Moves Mountain into Lake

HOW'S THIS for big-time material handling? Rock is blasted from the side of a mountain, loaded into trucks by power shovel, dumped into a crusher, sped on 2-mile-long belt to stockpile.

AND THEN, the rock—now more properly called gravel—is carried by another conveyor to a dock, loaded into barges, towed out into the lake and, finally, dumped.

THE RESULT of all this, come 1960, will be a solid-fill roadway across Great Salt Lake to carry SP "Overland route" trains—eliminating the present trestle and slow-order restrictions.

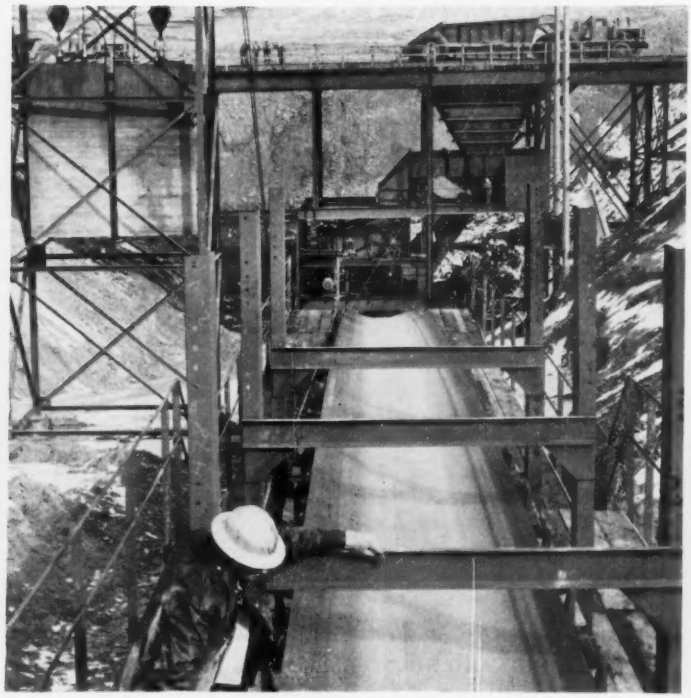
It wasn't too many years ago that anyone suggesting construction of a solid fill across Utah's Great Salt Lake would have been labeled a crackpot. Yet, today, the Southern Pacific is carrying out that very project—hauling millions of tons of crushed rock, sand and gravel from historic Promontory Point and the west shore of Great Salt Lake to replace its 13-mile Lucin cut-off trestle.

The advancements which have been made of late in soil mechanics, earth-moving equipment and materials handling are responsible for making this mammoth project a reality. Test borings of the lake bed, carried out since 1953, labeled "possible" a job which once would have been considered a fantasy.

But let's skip the specifications and details and take a look at what's going on at the construction site right now.

We board the SP's daily work train at Ogden. Aboard this same train are over 100 construction workers employed by the Morrison-Knudsen Company, contractor for the job. These men commute daily from their homes in Ogden. Going west from Ogden, through Little Mountain, we roll onto the 7.3-mile long Bagley fill which spans Bear River Bay from the eastern shore of the lake to Promontory peninsula. We cross the bridge about midway across the bay and continue on to Promontory Point, traversing roadbed such as will span the entire breadth of the lake by 1960.

Beyond Promontory Point, at Saline, we switch off the main line onto new trackage, constructed for this project and running north up the western shore of the peninsula. Revenue trains continue west from Saline over a 13-mile trestle. Our train continues north, past the rock quarry, to the man-made barge harbor where



3 ROCK CRUSHER is fed from hopper beneath the gravel bridge. Rock, dumped into hopper from trucks, is crushed and screened to 8-in. size or smaller. The crushed rock is then deposited on the "main leg" of the conveyor system—the 54-in. wide belt shown here.

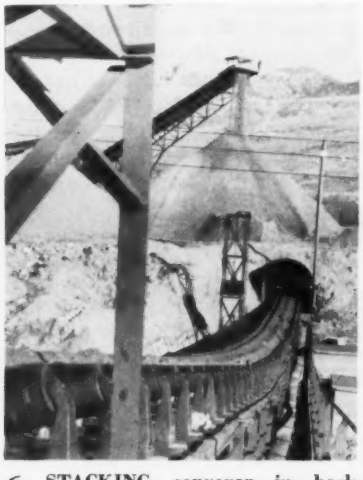
4 QUARRY-RUN rock is trucked from the mountain directly into the bottom-dump barges. This material is used to fill the center portion, or core, of the embankment. The barge harbor where this loading takes place was dredged out by the contractor.

we—and our fellow "commuters"—get off.

Here tons of rock, gravel and s nd are being loaded into huge bar, s. We hitch a ride on a large ear moving truck north to Little Valley—Morrison-Knudsen's construction camp. Here is where the majority of the M-K forces live with their families. We see a community designed to accommodate as many as 2,000 persons. In this town—non-existent before the project was started—we note a supermarket, post office, school, barber shop, recreation building and service station. Air-conditioned, room-divided barracks house the single men; those with families are housed in trailers. We engage one of the workmen in conversation.

"This is a pretty good deal," he says. "Why, right after we hauled our trailer in here, M-K came along and spread topsoil. Now we've got

5 ALMOST TWO MILES long, the "main leg" of the conveyor system carries crushed rock to a stockpile. An overall downhill drop of 400 ft requires braking of the conveyor. Power derived from regenerative braking is used by power shovels at the quarry.



6 STACKING conveyor in background takes rock and gravel off long belt and deposits it in 70-ft high stockpile. Conveyor in foreground is one of two running from tunnels beneath stockpile to the barge loading area. These belts can be run 800 fpm.

7 INTO BARGES goes the material from the stockpile. These barges, 250-ft long, were shipped to site by rail in 32 separate sections and assembled at Little Valley. Each of the seven cargo bins has a hydraulically operated set of bottom-dump doors.

8 SURVEY PLATFORMS (right) are used by engineers to direct dumping and dredging operations. Barge in foreground is dumping rock into trench dredged in lake bed. In the background is the 13-mile long Lucin cutoff trestle which the new fill will replace.

9 SHOREWARD BOUND for another load, one of the 250-ft long barges is pushed by one of six 1,000-hp diesel towboats. Thirty-three vessels of various types make up the fleet of construction craft. Loaded, the barges weigh in excess of 4,100 tons.

our grass in. Come spring we're going to plant a few flowers."

He offers to show us around the site. We ride to the side of a nearby mountain where, last November, some 600,000 lb of explosive were set off in the face of a 300-ft high cliff. The blast, which tore loose almost two million tons of rock, was heralded as one of the most powerful non-atomic explosions ever set off in the U. S. At the quarry we see huge Bucyrus-Erie electric shovels scooping up the rock and loading it into dump trucks. We spot the driver with whom we had ridden from the barge harbor.

"Come on along," he yells, "I'll show you where this stuff goes."

We drive from the rock loading area to the gravel bridge. Here our load of rock is dumped into a hopper suspended beneath the steel trestle. From the hopper, the rock is fed through a crusher, screened and deposited upon a 54-in. wide conveyor belt.

An employee of Hewitt-Robins, Inc., designers and builders of the conveyor system, explains that the conveyor belt disappears around the base of a hill in the distance is the "main leg of the system." "From here the crushed rock is carried nearly two miles to the storage pile. And, it's downhill all the way. In fact, about a 400-ft drop."

He shows us the regenerative motors which are used to put the belt in motion. "After we get her started and get rock on her," he explains, "we have to use these motors for braking or she'd run wild." In other words, the motors, after the belt begins to operate by gravity, function as generators. Power from these generators helps to run the electric shovels in the quarry. "We get more than 600 kwh of power this way."

Our truck driver friend drives up with another load. "What about them?", we ask, pointing to two trucks driving down the road toward the barge harbor, loaded with rock.

Barges Deposit Fill

He explains: "The rock I'm hauling here to the conveyor is crushed to 8-in. size or smaller before it goes on the belt. The rock they're hauling is quarry run. They use it in the center part of the fill."

We ride down to the barge harbor on one of the quarry-run rock trucks. There we watch as the driver backs his truck out onto an overhanging dock. Below the dock is moored one of the six, 250-ft long bottom-dump barges. As the barge is filled a diesel towboat churns up to take the barge out into the lake.

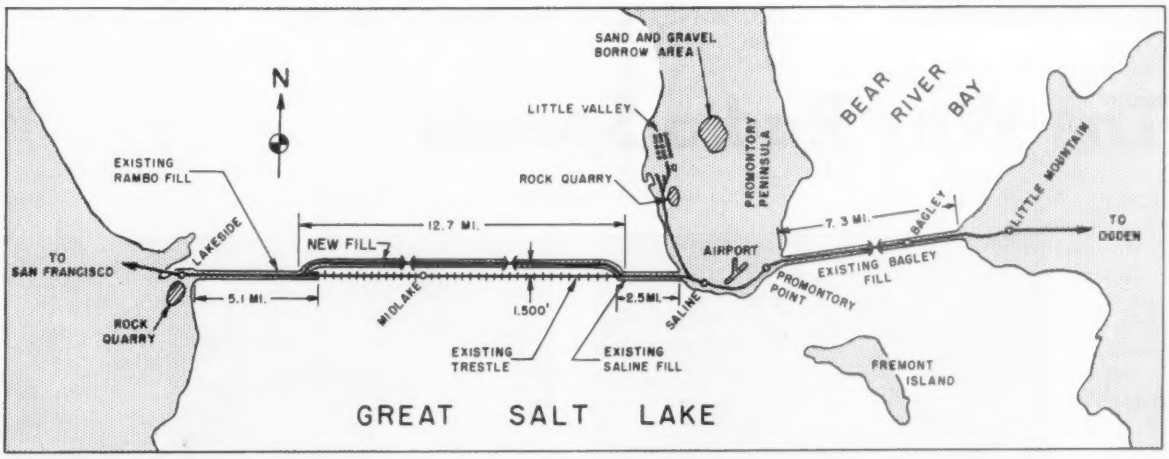
We go over to the opposite end of the conveyor belt which we had viewed earlier. Here a big stacking conveyor takes the crushed rock off the long belt and deposits it atop a 70-ft high storage pile. On the other side, we see two 72-in. wide conveyor belts emerging from tunnels in the base of the stockpile.

"These two belts," our guide explains, "carry the gravel from the stockpile directly into the barges. Each belt is about 250 ft long. Running at 550 ft per min, they'll handle 12,000 tons an hour. For full capacity, they can be 'revved' up to about 800 fpm to handle some 90,000 tons a day."

Walking down to the dock area, we watch the dual belts load one of the big barges. A 1,000-hp diesel towboat comes up to take the barge out in the lake where it will deposit its cargo of some 2,000 cu yd of gravel 60 ft below the surface of the water.

The six large barges were built by Kaiser Steel at Napa, Cal. Shipped to the site by rail in 32 sections each, they were assembled at Little Valley. Each is equipped with hydraulically operated bottom-dump doors.

We strike up a conversation with



one of the workmen on the dock. "There are three big dredges out there right now digging the trench in the lake bed," he tells us. "Those towboats were shipped out from Oregon by rail, in two sections. We just welded the two halves together, fitted them out, and set 'em afloat."

"What other vessels make up the fleet?" we asked.

"Well," he replied, "there's the six big barges and the six big towboats—you've seen those. In addition, we've got seven smaller deck barges, two 600-hp towboats, two water taxis, four workboats and three surveying boats."

Three Different Beddings

We climb aboard the barge and soon pass through the mouth of the harbor into open water. To the south we can see the 13-mile long Lucin cutoff trestle. As we approach the line of the new embankment, we come upon a three-legged tower rising from the water. "That's one of the surveying towers," our guide explains. "Tied up at its base is one of the survey boats."

Our barger is positioned over the underwater trench and the dumping begins. One by one, each of the seven cargo compartments is emptied.

"Pretty smooth out here today," our friend remarks. "This gets real tricky when it's rough."

Upon our return to Little Valley we drop in at the construction office. Here's what we learn:

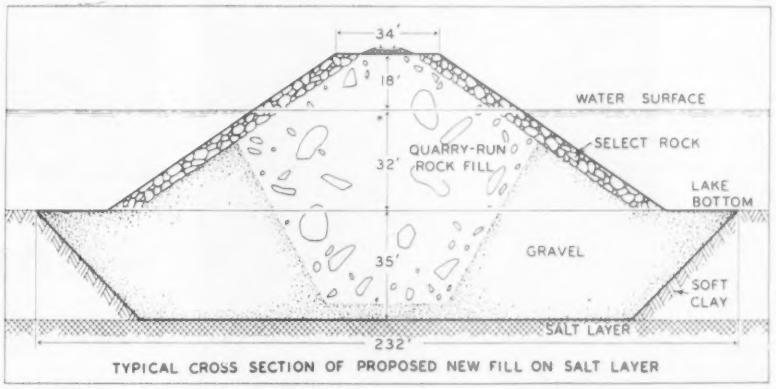
Lake bed tests and studies carried out by the International Engineering Company of San Francisco show that three different bedding conditions lie along the bed of the new route. About two miles of the fill will rest on a thin salt crust layer. In this region, the new embankment will achieve its maximum base width. Five miles of the embankment will be placed on deep salt—the most stable lake bed condition to be encountered. The remainder of the fill will be placed on clay. The maximum height of the embankment will occur in the deep-salt-bed region where the distance from track to the base of the embankment will be about 85 ft.

Railroad forces began last June to dump rock in comparatively shallow water in extending the existing Saline fill which extends westward from the peninsula. The new line will run parallel to the present trestle—1,500 ft to the north.

The overall project is expected to cost $49 million. Morrison-Knudsen's share of the work will run to about $45 million; less than $2 million will go for installation of track and signal equipment. All in all, the job will cost about $4 million per mile and will involve dredging 15 million cu yd of mud and quarrying, transporting and placing 31½ million cu yd of sand, gravel and rock fill.

The completed embankment will be roughly 13 miles in overall length. Thirty-four feet in width at the top, it will carry the track 17 ft above the surfact of the lake. The base of the embankment will vary in width with lake-bed conditions—from 160 ft to 483 ft. Select rock (see cross section) will cover the faces of the embankment which, at times, will be subject to 8-ft high waves churned up by winds across the lake. The embankment will be continuous except for two pass-throughs to permit the passage of small boats.

An example of the advantages which will result from the new line was given last May when fire demolished a 645-ft portion of the trestle—the first major accident on the span since it was opened in 1903. The new line, expected to be opened early in 1960, will allow full-speed operation of trains and will form a virtually indestructible link in the SP's "Overland" service.



THE WIDTH of the base of the fill will vary, depending upon the consistency of the lake bed, from 160 to 483 ft.

SEE FOR YOURSELF AT CHEYENNE, ON THE UNION PACIFIC

The Way Radio Speeds

— Car Checking

Car checker in yard uses his packset radio to "talk" car numbers to yard clerk in office, who checks list.

— Inspection

Car inspector with radio packset can call his car foreman in special service truck on span track.

Quick Facts:

THIS IS A BUSY YARD . . . In the Union Pacific's Cheyenne yard, all trains are given a Class B inspection. The yard extends east and west, with eight tracks on the north side for handling westbound manifest trains, and nine tracks on the south side for eastbound trains. About 20 through freights are operated each way daily, and trains range from 80 to 125 cars each. During some periods, trains arrive on close spacing, and as many as 10 have arrived within one hour. During fruit shipping seasons, three of the eastbound trains are scheduled as follows: Arrive at 7:40 a.m., depart at 8:35 a.m.; arrive at 8:55 a.m., depart at 9:20 a.m.; and arrive at 9:10 a.m., depart at 9:41 a.m.

OLD CHECKING SYSTEM WAS SLOW . . . Previously, after a train arrived in the yard, a car checker walked the length of the train to check the car initials and numbers. Then he took his list to the yard office. Thus, after a train arrived, about 20 to 25 minutes elapsed before the office had a check.

RADIO ENDS THE LAG . . . Now, each car checker has a Handie-Talkie radio pack-set. As each train enters the yard, a car checker, standing near the yard entrance, reads off the car number by speaking into the transmitter of his radio. These numbers are received on the radio headset worn by the clerk in the office.

On his desk the clerk has a typed list of the consist of the train, sent by printing telegraph from the last previous yard from which this train was dispatched. As the clerk listens to the checker, he checks the listing for each car, and makes corrections or additions as required. Therefore, the office has a correct list of the cars as soon as the train stops in the yard, rather than 20 to 25 minutes later. All the office work can be completed before the train is ready to depart.

SPECIAL RADIO HANDLES TWO TRAINS . . . In numerous instances trains from opposite directions may be pulling into the yard simultaneously. Therefore, the car checking radio had to be arranged so that at least two checkers, at the yard entrances, can talk via radio to their respective clerks in the yard office. To meet this requirement, the Handie-Talkie portable sets used by the car checkers operate on one of four frequencies. The base station for car checking will receive all of these frequencies. On the other hand, the base station will transmit at only one frequency which is received by all the Handie-Talkies used in car checking.

When a checker at a yard entrance sees an arriving train approaching, he uses his radio to call the office. This call causes a corresponding indication lamp to be lighted on the jack box on the clerk's desk in the office. By inserting a plug in the jack opposite the lighted lamp, the clerk connects his headset receiver to the proper receiving equipment to hear the yard clerk. Then the clerk speaks into his transmitter to tell the checker to "go ahead."

If a second train must be checked at the same time, a second clerk is called to work at an adjacent desk, which has similar communications equipment. Also, the chief clerk has a set by means of which he can listen in at any time. As soon as the train list has been checked, a check is made for diversion orders, if any. Then the list is punched on IBM cards; one card for each car.

If any cars are pulled for repairs, the corresponding card is pulled. If any cars are added, additional cards are placed in proper order. When the train has been inspected and is OK, the cards are fed through a machine that prints the train list, and prepares a Teletype tape which transmits the consist, by printing telegraph, to the next division point as well as to the car accountant's office at Omaha.

INSPECTION CUT FROM 1 HOUR TO 25 MINUTES . . . While each train is in this yard, every car is given a Class B inspection. The car foreman's office, and headquarters for the car inspectors, are in a small building about midway of the length of the yard. The foreman receives notice, by telephone, about 10 minutes before each train is to arrive.

Each car inspection crew consists of two inspectors and two helpers. One inspector works one side of a train, and the second one works the other side. One of these inspectors carries a Handie-Talkie radio. A helper follows each inspector to apply oil and close the box lids. For trains that are to be gotten out promptly, each crew is assigned to 20 cars, so that for a train of 80 cars, four crews are required. For a train of 100 cars, each crew would inspect 25 cars. Two air-brake men work at each end of the yard to make brake tests. These men also have Handie-Talkie radio sets.

If the inspectors find no defects on the cars assigned to them, they use their HandieTalkie sets to make a report to the car foreman and to the assistant yardmaster in the yard office. Also, the inspectors use the radio to talk back and forth with the foreman and with other crews, so that the work is well coordinated to inspect the entire train properly and as quickly as practicable.

SERVICE TRUCK RIDES SPARE TRACK . . . Tracks north 4, 5, 7 and 8 are used exclusively for "hot-shot" west-bound trains, such as auto parts and forwarder trains. Track north 6, which is disconnected at the ends and dead-ended, is used exclusively by a highway pickup type motor truck, which is equipped with flange wheels to run on the rails. This truck is loaded with car journals, couplings, hand-irons, brake shoes, other replacement parts, and a gas welding outfit. Also, this truck is equipped with two-way radio, tuned the same as the radio on the yardmaster's office and the Handie-Talkies used by the car inspectors.

When trains are being inspected, the foreman is on duty in this truck to direct the work of his inspectors, and to listen to all radio calls and conversations. He can run the truck wherever trouble has been located. Thus a "brass" or a broken knuckle can be replaced within a few minutes. This avoids delay to the train, and keeps the car on schedule, which is important especially for fruit and vegetables. Previously, if a brass had to be changed, the car was set out.

If the repairs required are of a nature that cannot be done in the yard, or cannot be completed within the allotted time, the foreman uses the radio to confer with the clerk in the yardmaster's office. Then a switch engine is standing by to pull the car and set it over into the repair yard.

Prior to the use of radio, if a car inspector found a defect, he had no means to call the foreman except to walk to the office, or climb through cars to get to a phone in some other office. This delay was one of the principal reasons why an hour was re-

quired for train inspections in this yard.

RADIO TRANSMITTERS ARE CONVENTIONAL . . . The two base-station radio transmitters, one for the car inspector system and the other for the car checker system, are in a sheet-metal case near the east end of the yard, about a half mile east of the yard office. These are conventional railroad type transmitters rated at 30 watts RF output, and operating on 115 volt a-c.

The antennas are on a 100-ft steel floodlighting tower, the antenna for the car checker system being a triple skirt type, mounted 110 ft above ground level, and the antenna for the car inspection system being an Andrew 3605 corner reflector type mounted 95 ft above ground.

All the receivers, including the one for the car inspector system and the four for the car checker system, are in a cabinet in a 4-ft by 6-ft sheet-metal house adjacent to the yard office, west of the case for the transmitters as described above. The antenna for the receivers is a triple skirt type mounted 110 ft high on a steel floodlighting tower.

Antenna couplers are used between the receivers to prevent interaction and losses.

PORTABLE EQUIPMENT IS LIGHT WEIGHT . . . Some of the portable radios are the older type Motorola, each weighing about 14 lb, and the remainder are the latest model, which weighs approximately 10.5 lb. These new sets utilize transistors in lieu of tubes for the majority of the circuits. This use of transistors reduces the power required, so that the battery life is longer, as well as accomplishing reduction in overall weight. Each of the new type portable sets is operated by a nickel cadmium storage battery. These batteries are the Voltablock type, made by the Saft Corporation, Lodi, N.J., and are rated at 4 ampere hours, 6-volt.

The engineering and construction of this radio was handled by R. H. Brenneman, assistant telephone and telegraph engineer, under direction of G. R. Van Eaton, superintendent telegraph, with installation work by railroad forces.

The radio base station equipment, as well as the portable sets used on this project, were furnished by Motorola, Inc.

Railroading After Hours with Jim Lyne

OVERPASSES AS BILLBOARDS—Paul Howard of Minnesota Mining likes the suggestion I put forward here, of using structures carrying railways over highways as a place to convey the message to motorists that this railroad offers a way of moving freight to avoid highway congestion. He tells me of a slogan being used by the Great Northern, in illuminated tape, which merchandises both freight and passenger service.

It was the IC's George Crowson who first raised the question as to what the railroads could do to keep their continuing existence and importance adequately before the public, now that so many routes no longer provide passenger service. There's no one answer to this problem, but using the railway overpass as a messenger is quite evidently one of them.

The thing I'd really like to lay hands on, though, is how to convey the railroads' value as a freight carrier in just a few words. You can't get many words, in addition to the name of the railroad, on an overpass girder.

TRIMMED DOWN TO SIZE — Perennial sources of amusement to many important (but not self-important) executives are the occasions when they get treatment of the Groucho Marx variety, from some little fellow away down the line. I heard the other day of such an instance which used to be told on himself by the late W. C. Dickerman, chairman of American Locomotive.

It appears that the company occasionally employed an "outside" man to come in and polish the woodwork and furniture at its headquarters office. Mr. Dickerman encountered this chap, in an outer office, and invited him in to shine up the chairman's equipment.

"Nothing doing sonny-boy," said the diminutive polisher, "I'm taking my orders from Mr. ———, not from you."

RAILROADS FAVORABLY PUBLICIZED—The magazine Time, in its January 28 issue, added to the series of constructive articles on railroading which have appeared recently in magazines of popular circulation (e.g., the Saturday Evening Post of December 22, 1956, and January issue of Fortune).

The thing not always evident in such helpful articles as these is the degree to which railroad people go all out to help the writers of these articles to get at the facts. We've often had visits to our shop by such writers and have assisted them in every way we can; and we know that railroad p.r. people, on the whole, always have the welcome mat out.

With all the kicking around that railroad public relations efforts get, one of the great strengths in the situation is usually overlooked—namely, that there's probably not another industry in the country which makes information so readily available to journalists. That is the very bedrock of sound press relations, and the railroads' p.r. work is based on this solid foundation.

Indeed, one of these magazine writers complained mildly to one of his railroad hosts, from whom he was seeking information, on the grounds of over-enthusiasm. He said (according to the fellow who was his host):

"I got you started talking three hours ago and you haven't stopped once to get your wind."

It is an old saying that you can hold a horse back with reins, but you can't push him. And enthusiasm is no real handicap.

SCIENTISTS AND TECHNICIANS at Oakite laboratories work in half million-dollar facilities enlarged in 1954.

Keeping Dirt on the Run

Research technicians and engineers of Oakite Products participate with railroad men in a continuous program to develop new cleansing agents to meet new requirements

WHY THIS RESEARCH SERIES?

The idea behind this Railway Age series, under the general heading of "Contributions to Railway Research," is to show, by a group of articles, the extent to which research in the interest of the railroad industry is carried on by manufacturers in the railway supply field. The first of the series appeared in Railway Age, Aug. 13, 1956.

The railroads have long been criticized for backwardness in research by uninformed people outside the industry. Actually, the industry's activity compares favorably with other industries. Its achievement is a cumulative job, in which the AAR and many individual railroads participate. Manufacturers of railway supplies have a particularly important role in the industry's research program.

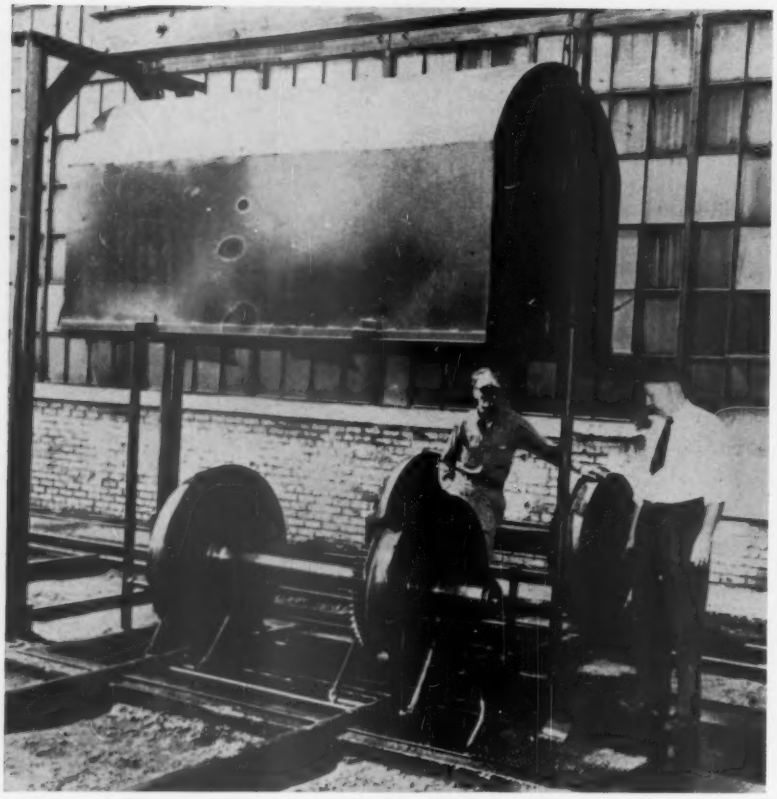
Large-scale research operations, either wholly or chiefly devoted to the production of better transportation by railroad, are described in these articles. The material is provided on invitation by representative companies to report in their own way their own research contributions, and the series does not undertake to cover the entire research activity under way in the railway supply industry, or even in any one segment of it. The order in which articles appear has no relation to the relative importance of the companies concerned. The series nevertheless will serve to show convincingly the impact on the railroad industry, and thus on the whole American economy, of the continuing research going on in the industry to make more efficient railroad operation possible.

This is the story of Oakite Products, Inc.

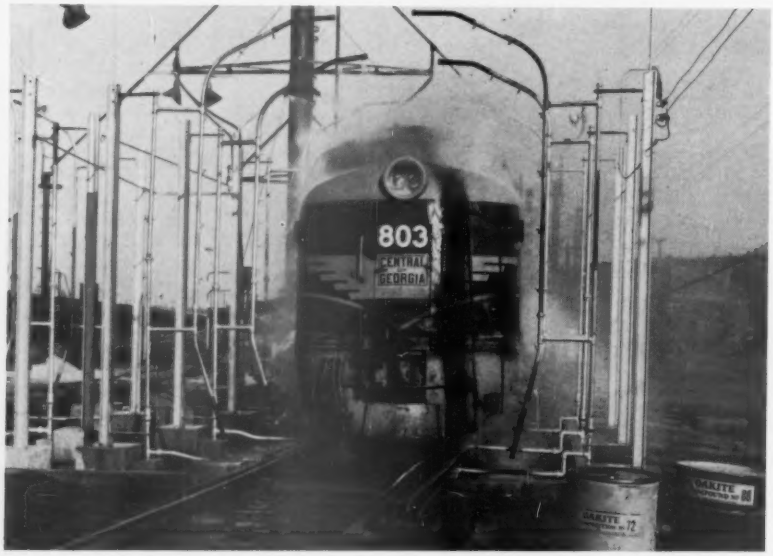
The purpose of Oakite research today, as it was in 1909, is to discover and formulate cleaning materials and methods that will be constantly (1) more efficient, (2) safer, to both metals and personnel, and (3) more economical where economy really counts, i.e., in actual use.

Real economy is not indicated simply by the price per pound of a material. The important considerations are the cost of the cleaning solution, the length of its effective cleaning life, its cleaning ability, the time it takes to clean, its safety to equipment and personnel. It is in the end results that real economy must be measured. The products of Oakite research are designed to achieve that economy.

Opening Oakite's new, enlarged laboratories in 1954, the company's president, John A. Carter, said: "Since 1909 our company has been engaged in the science of cleaning. Basic to that science is knowledge of metals and soils and surface chemistry, knowledge gained not only from studies of raw materials but from close collaboration with manufactur-



AXLE AND WHEEL washing compounds are time-saving and thorough.



SPECIAL FORMULAS for washing and rinsing exteriors meet the varying requirements of cleaning crews in different parts of the country.

ers and operators in every industrial field.

"Our new laboratories are designed to facilitate those studies and that collaboration, to make possible even wider application of the experience gained in all fields to the cleaning problems of each. Our 45-year history has been a continuing program of that kind of research, that kind of service—an ever broadening inquiry into the nature of soils and their removal; and ever expanding sharing of our knowledge with industry so that it in turn can serve America better."

Oakite's research and product development laboratories occupy 30,000 sq ft, and represent an investment of nearly one-half million dollars in equipment. The facilities include separate laboratories for quantitative analysis, conversion coatings, and organic research, as well as for specific research into railroad problems. A staff of forty-one chemists, chemical engineers, and technicians work here with the most modern equipment, including some they devised themselves to meet particular needs.

To this center come representatives of manufacturers of railroad equipment who have worked closely with Oakite over the years. They bring information of new metals, new production methods, and the resulting new soils (dirt, film, residue, products of combustion, etc.), and work with Oakite chemists to solve the consequent new cleaning problems.

To this center, too, come railway personnel, seeking advice on cleaning facilities and materials that will best suit their future needs.

Here new chemicals are analyzed, compounded, and tested to determine their cleaning ability. Tests in the laboratory are conducted in equipment designed to simulate field facilities. Then the materials are tested under actual field conditions, with technical service representatives and chemists checking every step. Finally, the materials are standardized, if satisfactory, or returned to the laboratory for new formulation, new tests, new experiments. All materials are rigorously tested, many for months, before they are released as standard products.

Meeting Specific Demands

Among the materials produced over the years by Oakite's laboratories are acidic, solvent, and alkaline detergents—products designed to remove oil, grease, scale, rust, slime, or old paint; to prevent rust; to prepare metal for painting; to clean diesel and passenger car interiors; or to clean running gear and exterior car surfaces.

These compounds are specifically designed far various conditions of use, as in tank, or steam cleaning, spray cleaning or cleaning by machine. Some materials clean and deodorize; others clean and sanitize; others clean

and provides protection against rusting.

One recent development of Oakite research was the introduction of an alkaline material that removes not only grease and oil and old paint, but rust as well. In many operations the new material, Oakite Rustripper, eliminates acid treatment, and thus saves money, valuable time, and equipment. One example of its use in railroad operations is that of removing carbon, rust and scale from diesel engine cylinder heads, valves and liners. Soaking these parts in an eight ounce per gallon solution of this product in a hot cleaning tank effectively removes such soils—and it is not necessary to resort to acid or mechanical methods to remove white deposits. According to Oakite engineers, valves are cleaned in one-sixth of former time.

Chemists Are Resourceful

The latest solvent product of Oakite's organic research laboratory is Composition No. 117, designed for cleaning diesel cabs, engine compartments, and other equipment where solutions would short out electrical circuits. The material is sprayed on, then blown off with compressed air. The flash point is 185 deg F, but its chief advantage is its exposure tolerance of 500 parts per million. This compares with the 25 ppm tolerance rating of carbon tetrachloride and trichlorethylene, which are 20 times more toxic. In this material, Oakite chemists undertook to combine thorough cleaning power with safety.

Such materials are the products not only of new chemical discoveries and the searching imaginations of chemists, but also of the men around the back shop tanks, the diesel supervisors, and the Oakite technical service staff working together.

Researchers in the industrial cleaning field cannot work in a vacuum; they must know several things before they can develop effective materials—they must know first the nature of the soil to be removed, the kind of surface from which it must be removed, the method which may most practicably be used to remove it.

Oakite believes there is only one way to establish these factors—to go to the places where the cleaning is to be done, to work cooperatively there with the men who will do it.

Typical of this cooperation was the

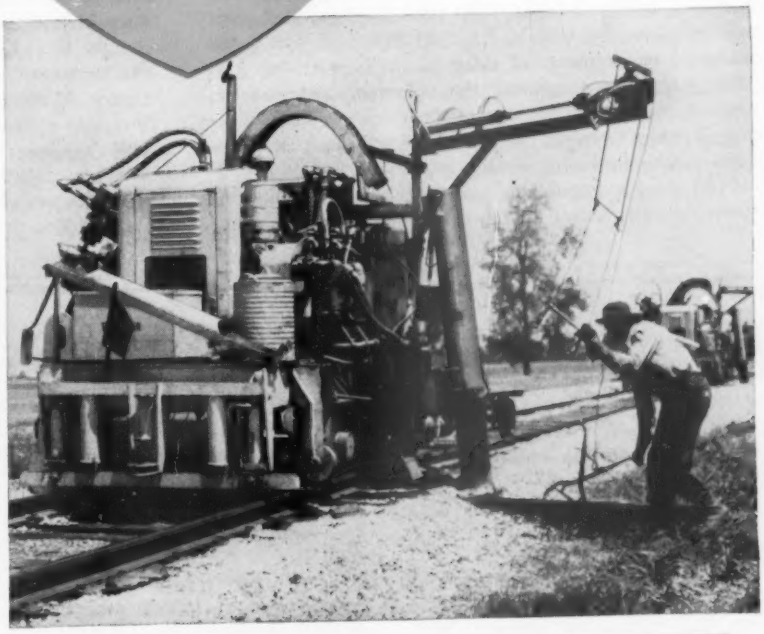
(Continued on page 42)

HOW TO REPLACE TIES *economically*

...with minimum disturbance to the track

R·M·C TIE Master

TieMaster does the complete tie replacement job, using only an operator and two laborers to attain speeds of better than one tie per minute. Only the TieMaster does all essential tie replacement steps—lifting the rails enough to clear tie plates, removing old tie, scarifying the bed, and inserting new tie. *Bulletin T-55.*



Railway Maintenance Corporation

Pittsburgh 30, Pa.

McWilliams Mole
Super Mole
McWilliams Tie Tamper
Crib Cleaner
Ballast Distributor
TieMaster
LineMaster
SpikeMaster
Tie Unloader
BoliMaster

IN ANNUAL REPORT ICC IS . . .

Talking Tough on Brake Checks

Annual report's 26 legislative recommendations include proposal that commission be given authority to prescribe rules for installation, inspection and repair of train brakes

The Interstate Commerce Commission says that air-brake maintenance and inspection practices of the railroads have "progressively deteriorated" the past three years.

The commission made this statement in support of one of the 26 legislative recommendations contained in its Seventieth annual report which went to Congress last week. The recommendation proposes that the Safety Appliance Acts be amended to give the commission "authority to prescribe rules, standards and instructions for the installation, inspection, maintenance, and repair of power or train brakes."

"Inability" or "Evasion"

"The suggested legislation," the commission also said, is needed because it has become apparent that the carriers are unable to cope with non-observance of their own rules, or, by design, have attempted to evade the minimum requirements of safety. . . . Even among railroads which have adopted the voluntary code of the Association of American Railroads, there has been widespread non-observance of the rules, particularly with respect to train-brake inspections.

"The proper inspection, maintenance, and testing of power or train brakes by the carriers are absolute requisites for safe train operation. We urge that the Safety Appliance Acts be amended as recommended in order to provide the degree of safety therein contemplated for employees and the traveling public."

The recommendation amounted to commission performance on its promise to the Brotherhood of Locomotive Firemen & Enginemen and Brotherhood of Railroad Trainmen. The promise, to seek such legislation, was made in a report wherein the commission found that it lacked power to prescribe brake-inspection rules sought by the brotherhoods (Railway Age, Jan. 28, p. 17).

Most of the other 25 legislative recommendations are repeaters from previous annual reports or other commission presentations to Congress. Several such presentations, anticipating recommendations of this report, have been made since the new Congress convened January 3. They include calls for power to impose penalty per diem charges to expedite freight car movements, liberalization of the fourth section, and limiting the application of Section 22 rates (Railway Age, Jan. 28, p. 39).

Still Opposes "Shall Nots"

The commission registered again its opposition to the rate-freedom program recommended by President Eisen-

ICC's LEGISLATIVE RECOMMENDATIONS

The 26 legislative recommendations of the ICC's annual report included these proposals:

- That the Interstate Commerce Act's Section 1 (15) be amended to authorize the commission to impose penalty per diem charges.
- That Section 4 (1) be amended so that railroads having circuitous routes may meet the competition of direct routes by publishing rates involving "fourth section departures" without prior approval of the commission.
- That Section 20b be amended to add safeguarded provisions under which controlled or controlling stockholders of a railroad undergoing voluntary reorganization would be permitted to vote on its revamp plan. Here, too, the commission proposed other Section 20b amendments which it called "minor." They would modify provisions governing solicitation of assents to reorganization plans.
- That Section 22 be amended to provide that special rates to government agencies (so-called "Section 22 quotations") could be given by carriers only in time of war or national emergency; and to preclude the filing by the government of complaints assailing section 22 quotations.
- That Part II (the Motor Carrier Act) be amended "to make clear that all for-hire motor carrier transportation, whatever its form, other than that specifically exempted, be made subject to regulation."
- That Section 203(b)(6) be amended to limit the so-called agricultural exemptions to trucking from points of production to primary market.
- That Part II's provisions relating to contract truckers be amended in five respects:

To provide that contract trucking may be performed under continuing contracts for only one person or a limited number of persons, to give the commission power to substitute a common-carrier certificate for a contract-carrier permit if it finds that a holder of the latter is conducting common-carrier operations, to give the commission power to limit the number of contracts under which a contract trucker may perform service, to provide that additional permits may be issued "only upon a showing that existing common carriers are unwilling or unable to provide the type of service for which a need has been shown, and to require contract truckers to file their actual rates, instead of minimum rates.

- That Section 204(a) be amended to authorize the commisssion to require registration of all motor carriers subject to its hours of service and safety regulations but not otherwise subject to its jurisdiction.
- That Section 206(a)(1) be repealed without disturbing the rights of any truckers now operating under it. This provision now permits truckers operating only on intrastate routes, for which they have state certificates, to handle interstate business without a certificate from the ICC.
- That Sections 207, 210 and 311 be

hower's Cabinet Committee on Transport Policy and Organization, and supported by the railroads. The program calls for addition to the Interstate Commerce Act of "three shall nots." They would end the commission's fair-share-of-the-traffic approach by prohibiting consideration of the effect of proposed rates on another mode of transportation. The report said:

"While this legislation might seem to provide greater opportunity for railroads to hold and advance their interests, the effect actually would be a debilitation of not only railroad transportation but also public transportation in the motor and water fields."

The commission also said its staff is making an exploratory study of the effects of both reductions and increases in rates. It added that "conditions in transportation do not require and the public interest in a sound transportation does not permit so serious removal of the rate-making restraints as was proposed in the 'shall nots'."

Would End Transport Taxes

The report puts the commission on record in favor of repealing the transport taxes, a matter which has top priority in the railroad industry's 1957 legislative program.

"With due regard for the revenue needs of the government," the commission said, "we again may refer to the serious effects which these taxes exert on for-hire transportation in its competition with private carriers. This adverse effect increases as transportation charges advance. Also, the taxes affect long-haul shippers relatively more than they do other shippers. In addition, questions as to the applicability of these taxes and the expense carriers incur in collecting them are troublesome."

The report's discussion of "Service, Facilities, and Efficiency" paid tribute to railroad enterprise of recent years, but it also said that "much more needs to be done." The need for more yards of the advanced type was called "very great," and it was suggested that more could be done on the standardization of freight cars—"without interference with experimentation or with the further development of special-purpose cars."

Recalling its previous annual report's reference to possibilities for effecting economies through coordination, the commission said that little was done in that connection last year. Also there was only "limited action in the way of new pooling," another possibility listed in the previous report.

"The pursuit of higher levels of efficiency," the commission added, "is an unending task. It is clear that the railroads have much to do despite their accomplishments to date. . . . The wider adoption of what has been proved good is a real need. There are still many excessive or obsolete railroad facilities. Such facilities are a burden on costs and service."

In the area of more efficient reporting, the commission referred to discussions between its staff and railroad representatives which may lead to mechanical preparation of reports. The plan under discussion contemplates that interested railroads would voluntarily furnish tabulations and tabulating cards in lieu of written reports. It is anticipated that the initial phases of this program might be placed in operation this year, but adoption of the entire program probably would require three to five years.

Central Problem

The commission identified the "central" transport problem as "one which involves the future of carriers which provide a public type of transportation as contrasted with transportation of the type which is limited to an individual shipper." It is concerned about trends which involve diversions of traffic to private carriers and for-hire operators exempt from regulation.

Something new was added to the report this year. It was illustrated by several charts. Otherwise it was generally in the usual form. A document of 176 pages, it covers commission activities and transport developments from November 1, 1955, to October 31, 1956.

---

amended tc make it clear that the commission has authority to issue motor carrier certificates for specific terms and to grant temporary operating authority to motor carriers and water carriers for periods of more than 180 days.

- That Section 208(c) be amended to repeal the provision whereby holders of bus certicates are automatically authorized to conduct special-party operations from the area of their regular-route operations to all points throughout the United States.
- That Section 212(a) be amended to make motor carrier operating authorities subject to suspension or revocation for failure to comply with any regulation of the commission, and to modify revocation procedures. The commission explained that Section 212(a) now permits suspension or revocation only for failure to comply with regulations promulgated under Part II, and thus excludes other regulations, such as those promulgated under the Transportation of Explosives Act.
- That Section 214 be amended to prevent the use by motor carriers of an arbitrary par value as a means of evading commission jurisdiction over the issuance of capital stock.
- That provisions for revocation of water carrier certificates and permits for non-use be added to Part III.
- That Part IV, which covers regulation of forwarders, he amended to require certificates of convenience and necessity as a prerequisite to entering the forwarder business, to make the exemption for shipper associations applicable only if they qualify as "bona fide," and to tighten provisions of Section 409, which permits forwarders to enter contract-rate arrangements with motor carriers.
- That Section 11 of the Clayton Antitrust Act be amended to provide that the commission's jurisdiction thereunder shall include contract carriers as well as common carriers.
- That the Transportation of Explosives Act be "completely rewritten in the light of important developments relating to this subject which have occurred in the 34 years since the last revision." The commission would apply the rewritten act to contract and private carriers as well as common carriers.
- That the U.S. code be amended to provide that suits to set aside commission orders be brought against the commission instead of the United States. This proposal has been made because the attorney general has sometimes declined to defend the commission, and in some cases "confessed error."
- That penalty provisions of the Safety Appliance Acts, Hours of Service Act, Locomotive Inspection Act, and Section 222 of the IC Act be stiffened to provide for fines reflecting the decreased value of the dollar.
- That the Safety Appliance Acts be amended to give the commission authority to prescribe rules for the installation, inspection and repair of train brakes.
- That the Locomotive Inspection Act be amended to make its provisions more general and thus more flexible, and to eliminate provisions for appointment by the President of the director and assistant directors of locomotive inspection.
- That legislation similar to the Medals of Honor Act be enacted to provide for awards of medals of honor for acts of heroism in connection with accidents or threatened accidents involving motor vehicles subject to the commission's motor carrier safety regulations.

NEW TECHNIQUE for cleaning tank car interiors was developed on request of railroads.

(Continued from page 39)

work done in 1930 in developing what Oakite terms the first acidic cleaner for car exteriors. Alkaline materials commonly used at that time removed not only the soils but the paint as well. The problem was to find something which would be safe on the paint, while removing oxides, oil, grease, road film, and other soils. Working with the Seattle Street Railway, the Southern Pacific and the Key system in San Francisco, research formulated a compound with both acid and cleaning properties.

The first such material, introduced in 1930, was called Oakite Coach Wash. It was succeeded later, after continuing research, by Compound No. 88. The latter, a formulation of acid, surface active agents, and inhibitors that lose none of their cleaning ability in the presence of acid, is now one of the most widely used exterior car washing materials in the industry.

Like other Oakite materials, Compound No. 88 was carefully blended to give certain advantages: in this case, good stability in shipping and storage; quick dissolution; good wetting-out and penetrating action on a variety of soils; good foaming action when brushed on surfaces; free and fast rinsing action, with no streaks left on glass; and safety on painted and unpainted metal surfaces. All of these factors are important in varying degrees, and they all benefit the user, in speed of operation, relatively low solution strength, and consequently, in real economy.

Similarly, Composition No. 19, a heavy duty alkaline cleaner, was developed as a hot tank cleaner at the request of the Frisco. Oakite Composition No. 72 was designed specifically for use in washing cars through spray standards for the Santa Fe. When aluminum pistons came into wide use in diesel locomotives, Oakite developed an inhibited alkaline cleaner, Composition No. 61, designed to remove the soils but to leave the surfaces unaffected.

Methods Research

A close partner of Oakite's chemical research is its engineering research department. The firm's engineers came up with the idea of extending the use of steam as an effective cleaning vehicle. Steam alone had been commonly used by the railroads to blast large deposits of soil off surfaces. Steam alone did not, of course, do a thorough cleaning job because it could neither emulsify nor saponify soils. It had heat and force, but no detergent properties.

Oakite engineers, working with the New Haven at its shops in Readville, Mass., during the 1920's, developed the idea of feeding a detergent solution into the steam gun under pressure. A portable tank, equipped with control and safety release valves, was devised to hold the solution under compressed air. The idea worked, but it was too cumbersome in use.

The manager of the firm's West Coast division then suggested adapting the venturi principle—the principle used in automobile carburetors—to the problem of steam cleaning. The engineers went to work and in 1938 designed a practical solution-lifting steam gun which required no more accessories than an open solution container, sufficient steam pressure, and suitable lengths of hose.

Development work on this gun, designed to operate off a 25-hp boiler at 100 psi operating pressure, was done at the NYO&W and Erie shops. This was the forerunner of the modern Hurriclean Gun, employing tube-within-a-tube construction. It would be impossible to estimate the amount of money saved for the railroads by steam cleaning, but it is a demonstrable fact that one man with the gun can do the work of four, and do it more efficiently, cleaning areas that the hand cannot reach. The solution-lifting steam gun is ideally suited to the cleaning of parts too large for tank cleaning, and for cleaning undercarriages.

In a similar way the engineers helped considerably in revolutionizing the cleaning of tank car interiors. The No. 324 Interior Tank Cleaning Unit, which is now permanently installed in many railroad yards, consists of a long pipe fitted with two opposing nozzles. Mounted in the dome of the car, with solution delivered under pressure through the nozzles, the unit rotates, delivering overlapping streams of detergent solution over the interior surface of the car.

Cleaning over, solution is drained and the surfaces rinsed with water through the unit. The tank car can then be returned to service. The unit eliminated crawling down into the car through the dome and cleaning manually in quarters that were always close and uncomfortable, when they were not actually hazardous.

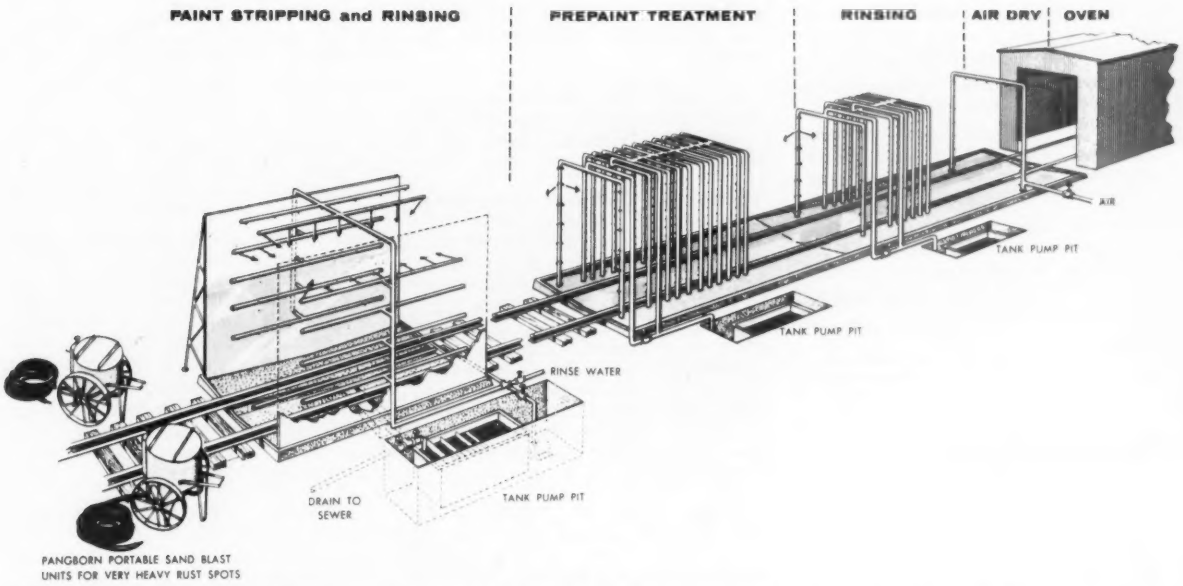
Another device, the Oakite Rotary Sprayer, stems from a patent issued in 1927 to H. Liggett Gray, now the firm's vice-president in charge of production. His original drawing shows a tripod mounted on wheels, fitted with nozzles through which solution is sprayed in various directions. The present rotary sprayer, somewhat more compact, is similarly mounted on a tripod and fitted with nozzles so offset that in rotation solution hits every inch of surface. The sprayer may be used by positioning it on the bottom of the tank or by suspending it from the manhole. It is particularly well suited to cleaning multi-compartmented tanks.

Working with the Railroads

The company's engineers have devoted considerable time and energy in working with various roads in designing or adapting equipment to handle their particular cleaning problems.

Outstanding examples of this type of cooperation are the wheel, gear, the axle cleaning developed by the firm's railroad representatives and engineers in cooperation with such roads as the Union Pacific, the Southern and Atlantic Coast Line.

At the Union Pacific shop in Denver, for instance, they started with drawings made up by Oakite engi-



MECHANICAL PAINT STRIPPING set-up was designed by Oakite to cut costs and speed up the repainting of rolling stock. The illustration above shows the operation continuity from paint stripping to oven.

neers. After minor modifications to adjust the design to fit their own conditions, they went to work on the machine.

At a point just outside the reclamation shop, they dug a pit into which they sank a solution tank, fitted with steam heating coils. Just inside the shop, astride the main tracks leading from the storage yard, they set up their machine, consisting of solution lines and nozzles inside a cabinet. Wheels and journal boxes are cleaned in a short time. Solution, draining from the machine back to the solution tank, may be used again and again.

Another example of the help available from Oakite's engineering department is an automatic paint stripping and paint conditioning set-up with which the work is done as the stock rolls along the track. The recommended stripping solution, determined by the type of paint and the metal surface to be stripped, is pumped from a sunken tank through spray heads, then rinsed. The car then moves to the next stage, where it receives a shower of Oakite Compound No. 36, a product designed to give a uniform paint-gripping etch and protects against rust. Then on to the rinsing, air drying, and baking stages, and so on to repainting. Working drawings explain the unit's construction, which can be made of piping generally available about the shop.

What does Oakite research mean to the railroads? In the past, as has been demonstrated, it has helped to revolutionize the techniques of cleaning, so that at once cleaning can be done faster and at lower cost than possible with raw caustic and commercial acids; and cleaning can become an integral part of preventive maintenance.

Research, in Oakite's view, is an investment—it pays increasingly high dividends to industry in *real* cleaning economy—less material in solution, longer solution life, less waste of solution and expensive water; more protection for surfaces and workers. The operations balance sheet is always a better index of economy than the price list.

For the future, cleaning research has already developed tested materials for use in parts spray washing machines, has worked with industry in the cleaning of parts for atomic-powered engines, is keeping pace with the metallurgical and metal finishing industries—all for longer operating life and lower operating costs.

Sad But True, UP Notes Its Vanishing "Brass-Pounders"

(Continued from page 17)

ment. It will also continue to operate schools to train telegraphers for those spots.

To mark the passing of an era, UP President A. E. Stoddard, who once worked a key himself, told his version of "the real pro" telegrapher:

"I remember the man," he said, "who used to start sending a long message, then reach into his pocket with his free hand for some 'makings', pull out the paper and tobacco sack, tap out a sufficient quantity of tobacco onto his paper, roll it with the one hand, lick it shut, pinch the end and stick it in his mouth, whip a match into flame by striking it on the underside of the table, and then blow away the scattered bits of tobacco with his first exhale of smoke—all this while sending a flawless message with the other hand. I figured when I could do that, I would be a telegrapher."

"I used twenty sacks of Bull Durham before I got a cigarette I could smoke."

NYC Trains Switch Chicago Passenger Terminal

The New York Central is now using Chicago's LaSalle Street Station as a terminal for its Michigan Central District passenger trains. The MC trains moved from the Illinois Central's Central Station after a recent Circuit Court decision permitting the change.

The IC contested the switch in a

suit filed last November, contending NYC trains were using its station under a joint facility contract. NYC said Central Station facilities were leased on a year-to-year basis.

An officer of the IC said the railroad would appeal the Circuit Court decision. The change will result in a one-half million dollar loss to Central Station, he said.

Altogether, five MC trains out of Chicago to Detroit, Canada and the east are affected. Big Four trains, however, will continue to use the IC station.

Organizations

Canadian Industrial Traffic League.—The 41st annual general meeting will be held February 19-20, in the Royal York Hotel, Toronto. Two open forums will be held on the 20th to discuss agreed charges and private motor trucking in Canada. Speaker at the annual dinner will be M. J. Coldwell, M.P., national leader of the Cooperative Commonwealth Federation Party.

Cincinnati Traffic Club.—The 29th annual dinner will be held at 7:00 p.m. February 12 in the Hall of Mirrors, Netherland Hilton Hotel, Cincinnati.

Lincoln Traffic Club.—The annual "stag" dinner will be held at the Cornhusker Hotel, Lincoln, Neb., February 13.

Michigan Railroads Association-University of Michigan.—The third Michigan Railroad Management Seminar, to be held in Ann Arbor, Mich., February 27-28, will concentrate on "what's ahead for the railroads." The meeting will look into future prospects of passenger operations, possible changes in freight service, chances for revision of regulatory policies, labor trends and whether mergers are to be a big factor in the future. Railroad officers will join with college faculty members in the discussions.

Traffic Club of Chicago.—Will hold its 50th annual dinner in the Grand Ball Room of the Palmer House, Chicago, February 13, at 7:00 p.m.

Traffic Club of Kansas City.—The 37th annual dinner and installation of officers will be held at 7:00 p.m., February 7, in the Grand Ball Room, Hotel Muehlebach, Kansas City, Mo.

Transportation Association of America.—Theme of the annual meeting, to be held in the Conrad Hilton Hotel, Chicago, February 12-13, will be "Transportation in the Changing World." During the morning session on the 13th, the chairmen of three federal regulatory agencies—Owen Clarke of the Interstate Commerce Commission, James R. Durfee of the Civil Aeronautics Board, and Clarence G. Morse of the Federal Maritime Board—will speak on "Making Transportation Work for a Great Transportation Future." Twelve national organizations are cooperating with the association in presenting the program, and 10 leaders in business, finance and education comprise the general committee in charge, head of which is R.A. Williams, president of the Standard Railway Equipment Manufacturing Company and 1957 chairman of the Railway Progress Institute.

Wyoming Valley Traffic Club.—Will hold its annual "Rail Night" February 6, at the Kingston House, Wilkes-Barre, Pa., with Fred Diegtel, assistant general manager of the Lackawanna, as speaker.

All cans are not alike
INSIST ON
EAGLE
SAFETY CANS
Approved by Underwriters Laboratories & Factory Mutual
TRIGGER TYPE
1 qt., 2 qt.
1 gal.
FREE-SWING TYPE
2½ and 5 gal.
THE COMPLETE LINE
• Available in 5 sizes from 1 qt. to 5 gal.
• No waste, no splash, no spill
• Strong quality construction
• Self-adjusting guard cap prevents leakage
• Safe for handling all explosive and flammable liquids
Order from your supplier or write us for information. Eagle products are also available in Canada.
EAGLE MANUFACTURING COMPANY • Wellsburg, W. Va.
Serving Industry Since 1894

Financial

B&M Equipment Issue Cost Is Highest in 25 Years

One of the highest borrowing costs on an issue of equipment trust certificates in about the last quarter century was agreed to by the Boston & Maine last week.

The railroad will pay an average of 6.11375% annually on the $7,080,000 of certificates, which were sold to Halsey, Stuart & Co. and associates on a bid of 99.09. The certificates, third and final installment of an $18,510,000 issue, were reoffered to the public at prices yielding from 5 to 5.75%, according to maturity.

Sale of the B&M securities was said to be the first time in approximately 25 years that a railroad had to pay over 6% on an equipment issue. The Chicago & North Western late last year committed itself to pay an interest rate of 5.05% on equipment trust certificates, and the New Haven issued certificates in 1956 at 5⅛% interest rate (Railway Age, Dec. 17, 1956, p. 7)

Applications

CHESAPEAKE & OHIO.—To assume liability for $8,100,000 of equipment trust certificates to finance in part the purchase of 1,000 box cars from ACF Industries, Inc., at an estimated total cost of $10,221,562. Estimated unit costs of the cars range from $8,881 to $11,525. The certificates would mature in 15 annual installments of $540,000 each, beginning February 25, 1958. They would be sold by competitive bids which would fix the interest rate.

People in the News

ATLANTIC COAST LINE. — **E. L. Spicer** appointed master mechanic, Waycross, Ga. **J. C. Parker,** general foreman, Rocky Mount, N.C., succeeds Mr. Spicer as shop superintendent at Waycross.

BANGOR & AROOSTOOK.—**E.E. Gordon,** general roadmaster, appointed assistant to chief engineer, Houlton, Me. **C. E. Garcelon,** superintendent bridges and buildings, named superintendent of track and work equipment. **Robert E. Trickey,** foreman at Derby, Me., succeeds Mr. Garcelon as superintendent of bridges and buildings, Houlton.

F. D. Larlee, general yardmaster at Oakfield, Me., named trainmaster.

BURLINGTON.—**J. W. Fletcher,** general agent, New York, appointed general freight agent there. **A. M. DuPont,** commercial agent, Detroit, named general agent at Philadelphia, succeeding **F. C. Reisse,** transferred to New York. **G. J. Curda,** foreign freight agent, New York, named commercial agent there.

CANADIAN NATIONAL. — **R. C. Johnston,** assistant vice-president of operations at Montreal, and **J. E. Dickison,** superintendent of the Edmundston division at Edmundston, N.B., retired January 31.

CANADIAN PACIFIC.—**J. C. Anderson** named to new position of supervisor, labor relations, Prairie region, Winnipeg, Man. Mr. Anderson was formerly schedule clerk in office of vice-president.

H. L. Thompson, roadmaster, Prince Albert, Sask., named division engineer, Edmonton, Alta.

CHICAGO & WESTERN INDIANA-BELT OF CHICAGO. — **George D. Moriarty** appointed assistant secretary and assistant treasurer.

DENVER & RIO GRANDE WESTERN.—**J. J. Schmidt,** electrical engineer, Denver, appointed electrical research engineer, Burnham laboratory. **P. D. Starr,** superintendent diesel equipment, Denver, succeeds Mr. Schmidt as electrical engineer. **W. J. Holtman,** assistant trainmaster, Grand Junction, Colo., named assistant to chief engineer, Denver. **Richard E. Davis** appointed trainmaster, Grand Junction division, Price, Utah.

FERROCARIL DEL PACIFICO (PACIFIC OF MEXICO).—**M. J. Macias,** purchasing agent at Guadalajara, Jal., Mexico, has resigned.

FRISCO.—**C. J. Thompson,** superintendent car service, Birmingham, Ala., retired February 1. **John L. Godsey** appointed superintendent car service-Alabama district, Birmingham.

GULF, COLORADO & SANTA FE.—**W. Y. Ware** appointed construction engineer and right of way agent, Galveston, Tex.

ILLINOIS CENTRAL.—**Leon E. Richmond,** general agent, Rockford, Ill., retired January 31.

ILLINOIS TERMINAL. — **William J. Resetarits,** commercial agent, St. Louis, appointed general agent there.

JERSEY CENTRAL.—**Edwin H. McCormack,** assistant general agent, named general agent, Elizabeth, N.J., succeeding **Joseph F. Maran,** retired.

MILITARY TRAFFIC MANAGEMENT AGENCY.—**Col. J. R. Messersmith** appointed regional director, Eastern Traffic region, at Pittsburgh, Pa. Col. Messersmith formerly headed the Army's First Transportation Zone Office in Pittsburgh, which is scheduled for deactivation.

MINNEAPOLIS & ST. LOUIS.—**C. T. Callahan,** assistant eastern freight traffic manager, New York, promoted to assistant general freight traffic manager, Minneapolis. **Louis B. Gilliland** appointed general agent, Boston; **J. J. Warren,** general agent, New York; **Samuel Rubenstein,** assistant general freight agent-rates and commerce, and **H. E. Falldin,** assistant general freight agent-divisions.

NEW YORK CENTRAL.—**J. J. Gregory,** assistant chief—engineering services, Collinwood, Ohio, appointed assistant to general mechanical superintendent — locomotive, New York.

William Cunitz, a member of the public relations department at New York, appointed to new position of administrative assistant to director of public relations. **John H. Chapman,** staff assistant and public relations representative, New York, appointed manager of community relations, reporting to the director of public relations.

Francis M. Ward appointed trainmaster, Electric-Harlem-Putnam division, at Grand Central Terminal, New York.

Henry Lewis appointed finance attorney and **L. Thomas Houser** named corporate attorney, newly created positions, at New York.

NORTHERN PACIFIC. — **Leonard Holmstrom,** assistant general passenger agent, St. Paul, named general passenger agent there. **Charles G. Sheffield,** city passenger and ticket agent, Spokane, replaces Mr. Holmstrom.

RICHMOND, FREDERICKSBURG & POTOMAC. — **James A. W. Smith** appointed assistant master mechanic at Potomac Yard, Alexandria, Va.

ST. MARYS. — **Walter J. Hastings,** general traffic manager, New York, elected vice-president—traffic on December 20, 1956.

SANTA FE.—**M. E. Sparks** appointed safety supervisor, Western and Colorado division, to replace **N. F. Young,** transferred.

SEABOARD.—**Z. B. Harrel** appointed assistant general freight agent, Norfolk, Va., succeeding the late **R. F. Woody.** Mr. Harrell was formerly chief clerk to freight traffic manager.

SOUTHERN. — **A. Hayden Exon,** trainmaster, Danville, Ky., appointed assistant superintendent, Somerset, Ky. **Ray J. Burgess,** trainmaster, Hattiesburg, Miss., transferred to Danville. **Roswell E. Flack,** trainmaster, Huntingburg, Ind., transferred to Mobile, Ala., to succeed **Theodore M. von Sprecken, Jr.,** transferred to Oakdale, Tenn. **Thomas A. Butler,** assistant trainmaster, Louisville, Ky., promoted to trainmaster there. **Joseph W. Biggers, Jr.,** supervisor, work equipment, Charlotte, N.C., transferred to Greensboro, N.C. **Alex F. Farris, Jr.,** named supervisor, work equipment, Birmingham, Ala.

C. L. Byham and **W. R. Donaldson** appointed auditors for computer accounting at Washington, D.C., and Atlanta, Ga., respectively.

W. M. McCullough, assistant general passenger agent, Philadelphia, Pa., and **J. T. Hellmann,** division passenger agent, Greenville, S.C., retired February 1.

SOUTHERN PACIFIC.—**Joseph F. Hoss, Jr.** appointed engineer structural design, San Francisco, succeeding **Richard S. Bennett,** promoted to assistant engineer of bridges, San Francisco.

Supply Trade

John Samson, sales engineer of **Eastern Railway Supplies, Inc.,** New York, has been elected vice-president in charge of sales.

W. L. Sheppard has been appointed vice-president and general manager of the Railway Division of the **Budd Company,** in charge of all operations related to the sale and manufacture of railway passenger train car products.

Walter G. Koch has been elected chairman of the board of **International Steel Company,** and **Wesley D. Hamilton** president and chief executive officer.

Alfred C. Laessig has been elected president of **Unit Rail Anchor Company,** a wholly owned subsidiary of **Hubbard & Co.** Unit Rail Anchor operates the Beall Tool Division, Sands Level and Tool Division and Hubbard Tool Division. Mr. Laessig has been with Hubbard & Co. since 1945 and was vice-president in charge of the tool division.

Thomas J. Kemble has been appointed to manage the railroad sales of **Harnischfeger Corporation,** succeeding **Odis Small, Jr.,** whose new assignment is with export sales of P&H diesel engines. Mr. Kemble was formerly assistant to vice-president, sales, **Chicago Railway Equipment Company.**

Neil W. Zundel has been appointed manager of **Reynolds Metals Company's** transportation market sales, at Louisville, Ky. He had previously been assistant manager of the appliance and equipment market.

Neil W. Zundel

Alfred C. Laessig

Thomas J. Kemble

W. L. Sheppard

Another Major Railroad

Takes A Forward Step —

With International Cabooses

All steel cabooses as built by International Railway Car Co. are:

1. constructed to take the long, fast runs that mean PROFITABLE freight haul
2. designed for maximum SAFETY for trainmen
3. arranged to facilitate EFFICIENT operation, and

detailed to suit your exact needs . . . as in this Frisco car pictured above — one of 75 now leaving our production line

See the New Frisco Caboose on Display

You are cordially invited to step aboard one of the new Frisco cabooses on display in St. Louis en route from our shops at Kenton, Ohio.

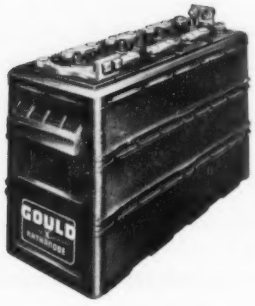
UNION STATION
Track 42
ST. LOUIS, MO.
FEBRUARY 11 and 12

INTERNATIONAL Railway Car Co.

Shops — KENTON, OHIO

General Offices — BUFFALO 3, N. Y.

You Get "Hidden Horsepower" from gould BATTERIES



America's Finest!
GOULD
KATHANODE BATTERIES
for Diesel Starting

Behind every Gould Battery is the industry's largest field engineering staff

Gould engineers train your personnel . . . set up preventive maintenance programs . . . establish efficient battery charging methods . . . and otherwise help you make use of the "Hidden Horsepower" in every Gould Battery.

Specify Gould and see.
Gould-National Batteries, Inc., Trenton 7, N. J.

©1957 Gould-National Batteries, Inc.

Always Use Gould-National Automobile & Truck Batteries

More Power to you from Gould

JUST OUT...

PANTASOTE'S NEW SAMPLE BOOK

FEATURING PLASTIC DESIGNS AND COLORS FOR MODERN TRANSPORTATION INTERIORS

EVERY ITEM NEW!

- 26 colors in Deluxe Curtains.
- 10 colors in Pantaglass (fibreglass).
- 10 colors in standard Pantasote two-ply quality.
  PLUS — Vestibule Curtain Materials, Wynsote Caboose Cushion Upholstery.

NO RAILROAD PASSENGER CAR LIBRARY COMPLETE WITHOUT ONE

yours for the asking

MAIL COUPON TODAY

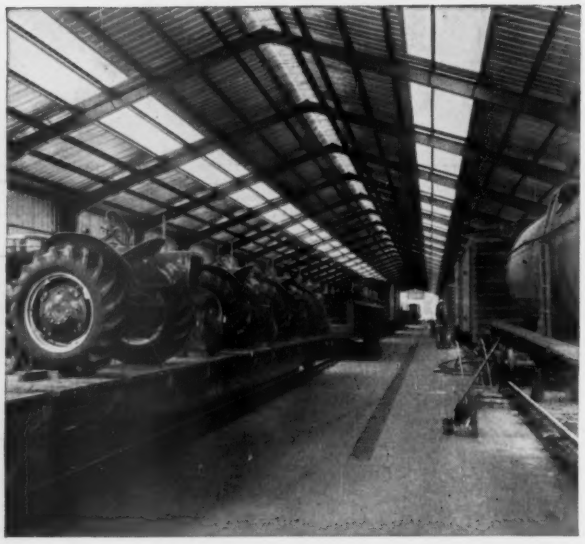
THE PANTASOTE COMPANY
26 Jefferson St., Passaic, New Jersey
Kindly rush us your new Sample Book

Firm Name _____

Address _____

City _____ State _____

By _____



Is there a metal building that's ideal for railroads?

Glance at the cars . . . then take a long look at the building. Notice how close the tracks are placed to the wall. There's still plenty of overhead clearance as those walls are twenty feet high.

There's ample room for men and equipment between the three tracks in this 70-foot wide building. No supporting columns are necessary as the rigid frame construction permits clear spans. Every square foot is usable.

If more room is needed at some future time, the ends or sidewalls can be unbolted, moved out and the necessary structurals and panels added. It's fast, easy and usually costs no more than initial construction.

Naturally this is a Butler "pre-engineered" metal building that has the additional advantages of being low in cost and it can be erected weeks ahead of conventional construction.

This particular building is used for repair work and is 600 feet long. You can have one larger or smaller. Railroads are now using Butler metal buildings for warehouses, terminals, tool and parts buildings—in brief wherever they need low-cost shelter that is quality constructed.

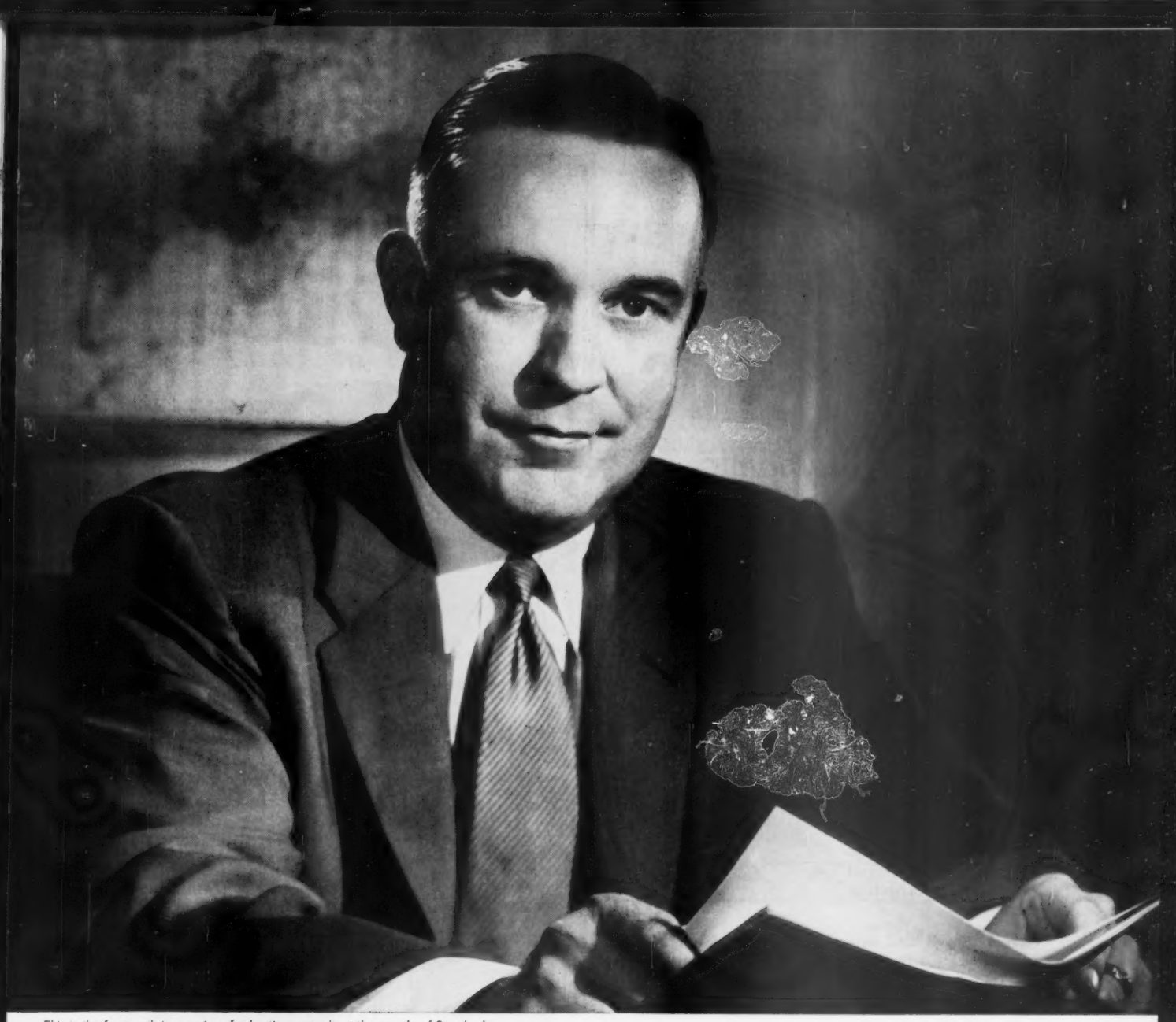
For more information why Butler "pre-engineered" metal buildings are ideal for railroads, contact your Butler Builder listed under "Buildings" in the yellow pages of your telephone directory or write Butler.

Yours for the asking—a colorful brochure, illustrating many applications and advantages of Butler buildings for railroad use. Write direct to Butler.

BUTLER STEEL PRODUCTS

BUTLER MANUFACTURING COMPANY
7371 East 13th Street, Kansas City 26, Missouri

Manufacturers of Steel Buildings • Oil Equipment • Farm Equipment
Dry Cleaners Equipment • Outdoor Advertising Equipment • Special Products
Sales offices in Los Angeles, Richmond, Calif. • Houston, Tex. • Birmingham, Ala.
Minneapolis, Minn. • Chicago, Ill. • Detroit, Mich. • Syracuse and New York, N. Y.
Washington, D. C. • Burlington, Ont., Can.



This is the fourteenth in a series of advertisements about the people of Standard.

Occupation: Railroading
Hobby: Railroading

Meet Ralph M. McLean, Jr.

All his life he's been a railroad man, carrying along an old family tradition established by his grandfather and father.

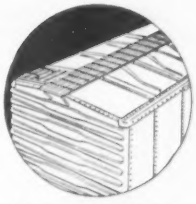
When he's not on the road for Standard, Ralph makes Chicago his home—a home brightened by his charming wife, an active son and a lovely daughter.

On the job, Ralph sells Standard products to the railroads of the Southwest, providing the service and assistance that are the mark of a Standard salesman.

All of the Standard team is instantly ready to provide the finest service there is—whether your order is for one car or hundreds—for new car parts or replacements.

You can depend on Standard to get cars on the road, paying their way.

Improved Dreadnaught Ends



Diagonal Panel Roofs

9 out of 10 house cars now in operation on America's railroads are equipped with Standard Ends and Roofs.

GEARED TO PROGRESS
P R I
MEMBER

Standard RAILWAY EQUIPMENT MANUFACTURING COMPANY

General Office: 4527 Columbia Ave., Hammond, Ind. • New York • Chicago • St. Paul • San Francisco

Standard Railway Equipment Manufacturing Company, (Canada) Ltd. Sun Life Building, Montreal

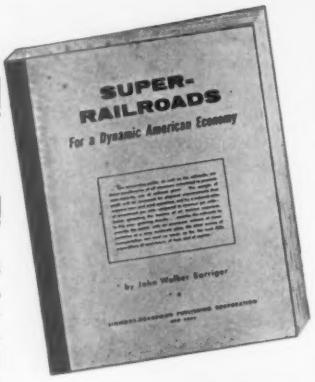
Railroad men are reading and talking about

SUPER-RAILROADS

For a Dynamic American Economy

1st printing SOLD OUT!

2nd printing NOW READY!



The future of American railroads is unlimited, says author John Barriger. This great potential will be fulfilled when professional railway men understand the vast opportunities ahead.

Only $2.00

Here is a new and dynamic program which will help railroads to realize their true strength . . . which offers *proof* that railroads have the technical and economic means to outstrip all freight competition . . . *proof* that railroads can triple their present passenger patronage.

Here is a bold-visioned working plan for railway progress that will inspire every railroad officer and supplier. Send for your copy now. Fill out this coupon and mail *today!*

SAVE—when you order additional copies.

RAILWAY AGE *BOOKS*
30 Church Street, New York 7, N.Y.

Date _____

We want "Super-Railroads for a Dynamic American Economy". Please send as indicated below:

_____ copies at _____ total cost.

200 or more copies:	$1.00 each (fob)
10 or more copies:	$1.75 each (postpaid)
1 to 9 copies:	$2.00 each (postpaid)

My check is enclosed _____ Please bill me _____

NAME: _____

TITLE: _____

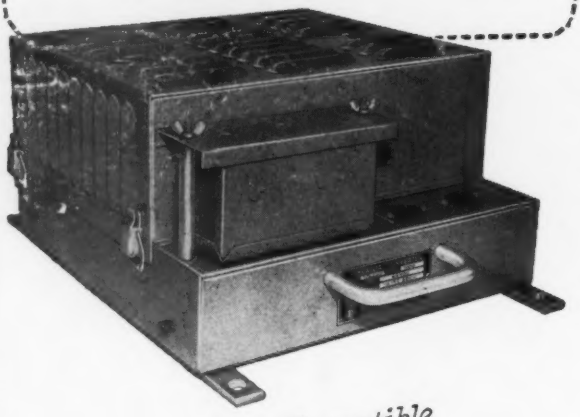
COMPANY: _____

ADDRESS: _____

CITY: _____ ZONE: _____ STATE: _____

2-4-57

Another C-D first



A New Low-Cost *Convertible* R.R. Converter

Yes, it's a new Cornell-Dubilier idea. Install the *single vibrator* economy Model 3600 converter *now* and convert to a *dual vibrator*, automatic switchover unit at any future time. Change over in a few seconds without tools.

Same rugged dependability as the nationally famous "3200 Series C-D RR Converter" but priced for low cost initial (single vibrator) installation. 50% longer vibrator life expectancy.

Write for Bulletin EB-3600, Cornell-Dubilier Electric Corp., Indianapolis, Indiana. Affiliated Member A.A.R.

CONVERSION KIT

Consists of Standby Vibrator and automatic Switch. Can be purchased whenever you're ready for dual vibrator service.

INSTANT ACCESSIBILITY

Trunk hasps afford quick access for conversion. Either RACK or BULKHEAD mounting, as ordered.

PLUG-IN CONVERSION

Field changeover like a vacuum tube. Kit can be plugged-in in minutes without tools.

COMPLETE UNIT

Available initially for dual vibrator operation factory equipped with automatic changeover feature.

CONSISTENTLY DEPENDABLE

CORNELL-DUBILIER

VIBRATOR CONVERTERS

For Industrial—Marine—Railroad and Appliance Services

PLANTS IN SO. PLAINFIELD, N. J.; NEW BEDFORD, WORCESTER & CAMBRIDGE, MASS.; PROVIDENCE & HOPE VALLEY, R. I.; INDIANAPOLIS, IND.; FUQUAY SPRINGS & SANFORD, N. C.; SUBSIDIARY: RADIART CORP. CLEVELAND, O.

CLASSIFIED ADVERTISEMENTS

Rates: $10 per column inch (1" deep x 1⅝" wide)
Equipment used or resale acceptable in this section

FOR SALE
RECONDITIONED
RAILROAD CARS FOR INTERPLANT USE
GONDOLAS • BOX • FLAT
ERMAN-HOWELL DIVISION
332 South Michigan Avenue
Chicago 4, Illinois
WEbster 9-0500

RAILROAD COST ACCOUNTANT FOR MIDWESTERN CLASS I RAILROAD

Experienced railroad accountant interested in cost finding, age 30 to 40 years. Give complete details of background, education, experience, age, and salary requirements. All replies held strictly confidential. Address Box 817, RAILWAY AGE, 30 Church St., New York 7, N.Y.

DIESEL GENERATOR

660 HP VIKING, VDS8, Supercharged 400 KW, 600 V., DC Railway Generator. Rebuilt Condition. Priced very low.

S. M. Davis
510 LaSalle St., St. Louis 4, Mo.

POSITION WANTED

Former Trainmaster, Chief Dispatcher, Chief Clerk, Freight & Passenger Agents as heavy industrial points on Class I short line railroad desires connection as such or as Administrative Assistant. Age 37, degree in Business Administration, married, good references. Address Box 819, RAILWAY AGE, 30 Church St., New York 7, N.Y.

Vol. I of brake study course

ABC's of AIR BRAKES

with Dictionary of Air Brake Terms

by C. M. DRENNAN

A teacher of air brakes to railroad men since 1908; retired supervisor of training, Westinghouse Air Brake Co.

This complete introduction to the study of air brakes contains 70 of the famous "chalk talk" diagrams which the author has used successfully for years. Its three sections include: Section 1—friction and braking ratio; freight and passenger train brake control. Section 2—description, function and operation of pistons, valves, electric controls and other components. Section 3—air brake dictionary covering words, terms and phrases, many of which have specific air brake meanings. Following each chapter is a quiz to test the student's absorption of the lesson. A practical book for practical men. 243 pages; approximately 8 by 11 inches; cloth bound.

Full Refund If Not Completely Satisfied

Send for your copy today

Only $4.75 postpaid

SIMMONS-BOARDMAN BOOKS 2-4-57
30 Church St., New York 7, N.Y.

I enclose check or money order for $..... Send postpaid, ... copies of ABC's of AIR BRAKES. If I am not satisfied I may return books for full refund within 10 days after receipt.

Name .....

Address .....

City, zone, state .....

ADVERTISERS

American Telephone & Telegraph Company 6
Association of American Railroads 28

Bird & Son, Inc. 25
Butler Mfg. Company 48

Caterpillar Tractor Company .....Inside Front Cover
Classified Advertisements 51
Cornell-Dubilier Electric Corporation 50

Daimler-Benz AG 21
Davis, S. M. 51

Eagle Mfg. Co. 44
Erman-Howell Division 51

Fairmont Railway Motors, Inc. 19

General American Transportation Corporation 20
General Railway Signal Company .....Back Cover
Gould National Batteries, Inc. 47

International Harvester Company 26, 27
International Railway Car Co. 46

Jackson Vibrators, Inc. 12

Kershaw Manufacturing Company 22, 23
Knorr Bremse GMBH 29

Magnus Metal Corporation 8
Miner, Inc., W. H. 3

Pantasote Co., The 48

Railway Maintenance Corporation 39

Standard Railway Equipment Co. 49
Symington-Gould Corporation, The ..Inside Back Cover

Union Switch & Signal Division of
Westinghouse Air Brake Company 4

Westinghouse Air Brake Company 15
Wine Railway Appliance Company .....Front Cover

Youngstown Sheet & Tube Company 24

This index is an editorial feature, maintained for the convenience of readers. It is not a part of the advertiser's contract and Railway Age assumes no responsibility for its correctness.

How Manufacturers Got Cost-Wise

There's no denying that the manufacturing industry, on the average, has far more complete and more useful cost information for the guidance of management than most railroads do. The provision of such information to management in manufacturing is probably one of the main reasons why that industry is much more profitable than railroading is.

Did manufacturing get the jump on railroading in the development of this highly profitable skill because manufacturers are brighter and have more initiative than railroaders? Or did luck have something to do with it?

According to the research study by Dr. Dwight R. Ladd—"Cost Data for the Management of Railroad Passenger Service"—reported on page 22 in our last week's issue—it was pressure from government, rather than industry initiative, that gave manufacturers their head start in cost-finding. When the corporate income tax got into high percentages, manufacturers had to develop a dependable method for evaluating their product inventories—because, without accurate and acceptable methods of determining the cost of completed products on hand at the end of the year, a manufacturer has no way of knowing what his net income had been. The railroads have had no such problem, because there is no such thing as an inventory of their product.

Not Just a Nuisance

Manufacturers soon discovered that accurate knowledge of costs, instead of being merely an expensive nuisance, is also a highly effective tool to enable management to operate profitably. Hence, manufacturers haven't stopped their cost analysis at the minimum forced upon them by necessity, but have voluntarily and enthusiastically elaborated it far beyond that point.

The railroads, of course, are not lacking in figures bearing on costs. They have, on the contrary, an enormous volume of them. It isn't quantity that is short—but quality (generally speaking, that is; there are some notable exceptions).

Dependable cost figures are a two-edged tool. They are the first and indispensable means to the kind of rate-making which will maximize remunerative traffic, and net earnings. They are equally useful as an instrument of expense control, turning a critical spotlight on extra-costly performance. We know, for instance, of a railroad which has been time-studying all of its recurring operations. So, if it is revealed that Crew A is regularly taking 20 min to make a set-out that Crew B does in 10 min, then the trainmaster is quickly alerted to the fact that Crew B knows some short-cuts that Crew A ought to be told about.

At the recent year-end meeting of the American Economic Association, Professor Kent Healy of Yale made this observation:

THIS RELATES TO:

1—Challenging competition
2—Holding to high service standards
3—Increasing internal strength
● 4—Getting a higher level of earnings
5—Improving tools and methods
6—Seeking a friendlier environment

> **"The failure to develop cost-finding as an active tool of management—either in controlling costs and load factors or adjusting prices, during the transport revolution of the past 30 years—has been the weakest aspect of railroad policy in meeting the new competition."**

It is not only railroad men and regulators and academic economists who have interested themselves in the problem of cost-finding, particularly as it is necessary for realistic rate-making—shippers are also more and more concerned about it. Before us lies a brief, submitted by a group of Louisville shippers in opposition to the proposed "across-the-board" increase in freight rates. These shippers freely concede the railroads' need for increased earnings, but they insist that the railroads ought to try to get such earnings, first, by pricing to attract remunerative traffic that they aren't now getting.

The Best Rebuttal

The railroads, of course, might starve to death while taking time to develop a generally acceptable revision of their rate-making practices. But maybe the best way to rebut the opponents of the pending across-the-board increase would be, in the meantime, to proceed vigorously with the cost and market studies which, in due course, should make the across-the-board technique obsolete.

Railroad men of all degrees and occupations, and railroad suppliers, should awaken to the fact that this is no mere departmental question, exclusively the business of accountants or traffic people. Those who are alert to their own and the railroads' welfare can best demonstrate that fact by vigorously supporting those individuals, institutions and publications that are carrying on this vital campaign of analysis and education.

Symington®

COMPOSITE ARTICULATED JOURNAL BOX LIDS

with these Outstanding Features:

GEARED TO PROGRESS
RPI MEMBER

PIN
Finished steel, retained by flanges on housing. No auxiliary means required.

ROLLER
Reduces wear and provides easy lid operation.

HAIRPIN
Temporary means of holding the spring in position for application of lid to Journal Box.

SPRING
Torsion type, enclosed. Assures tight assembly with lid closed or open.

BALL AND SOCKET JOINT
Full articulation enables lid to adjust itself to variations of hinge lug hole or box face.

BRIDGE
Connects housing and cover. Securely welded in place.

HOUSING
MALLEABLE IRON CASTING with ample hinge pin bearing area.

COVER
Reinforced pressing, flanged four sides. Provides rigidity and tight fit against journal box face.

Easy to Apply . . . No Tools Required

1. Place in horizontal position over hinge lug

2. Insert pin

3. Partially close lid until hairpin is free. Then remove hairpin and close lid all the way. If necessary to remove lid, open to position (3) to insert hairpin, lift to position (2) to remove hinge pin and lift off lid.

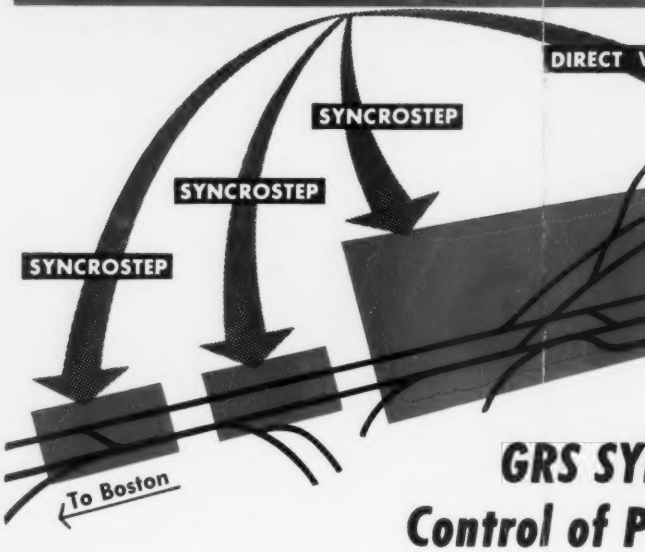
WRITE FOR BULLETIN J-309

A.A.R. CERTIFICATES 1, 5, 11 & 43, SPEC. M-120-51

THE SYMINGTON-GOULD CORPORATION

Works: DEPEW, NEW YORK

New York · Chicago · St. Louis · Boston · San Francisco · In Canada: ADANAC SUPPLIES, LTD., Montreal, Que.



GRS SY
Control of P

The Portland Termin
relay interlocking in
Station and at three
entire installation is c

Switches and signa
wire. The three distan
step—the simple, eco
provides fast operatio

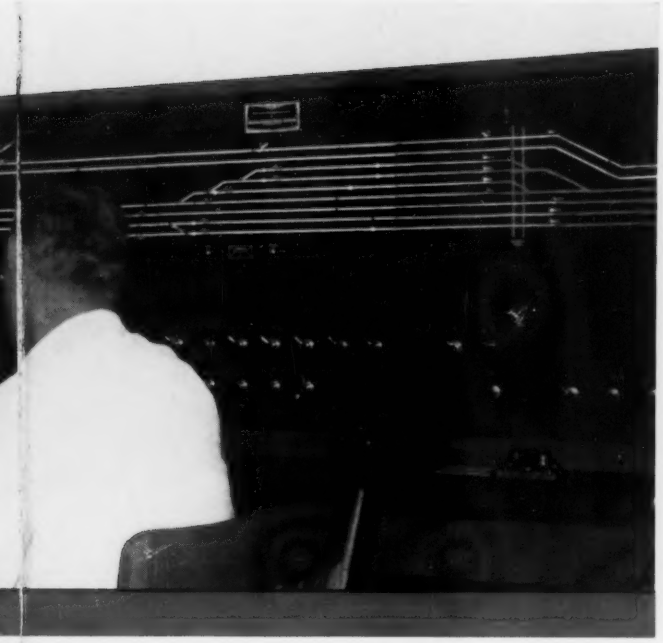
As a result of th
interlockers have bee
switching has been el
route line-ups are now
tenance expenses are

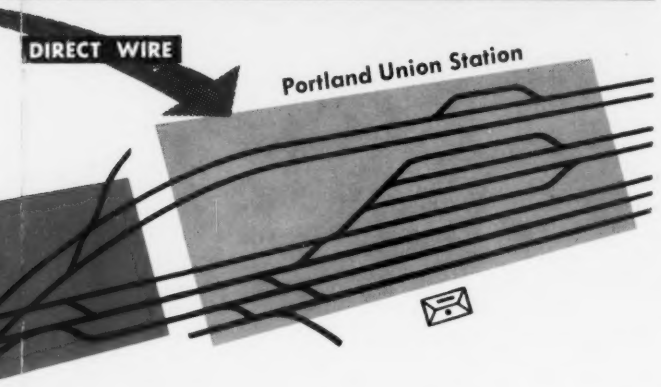
GEARED TO PROGRESS
P R I
MEMBER

2869

GENERAL RA

ROCHESTER 2, NEW Y





GRS SYNCROSTEP Unifies ol of Portland Terminal Area

and Terminal Company now has modern GRS all-rlocking in service at the Portland (Maine) Union nd at three locations in the vicinity. Control of the allation is consolidated on a single control machine. s and signals near the tower are operated by direct three distant locations are controlled by GRS Syncro- simple, economical system of remote control which ast operation and needs only two line wires.

esult of this consolidation, two electro-mechanical rs have been retired, and a large amount of hand has been eliminated. Operation is better because all -ups are now made by one man. Operating and main- xpenses are substantially reduced.

RAL RAILWAY SIGNAL COMPANY

HESTER 2, NEW YORK • CHICAGO 1 • NEW YORK 17 • ST. LOUIS 1